HTA Austria
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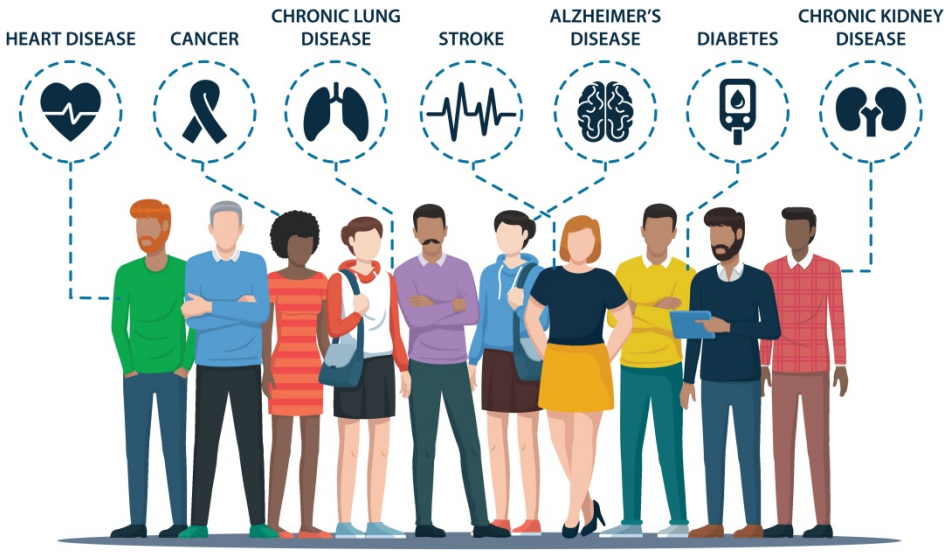
National strategies and programmes for preventing and managing non-communicable diseases in selected countries



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List of abbreviations

AU .....Australia
BMI .....Body mass index
BMSGPK .....Bundesministerium für Soziales, Gesundheit, Pflege und Konsumentenschutz
CA .....Canada
CCM.....Chronic care model
CH .....Switzerland
COPD.....Chronic obstructive pulmonary disease
CRD .....Centre for Reviews and Dissemination
CVD .....Cardiovascular disease
DARE.....Database of Abstracts of Reviews of Effects
DE .....Germany
DMP.....Disease management programme
FI .....Finland
FINDRISC .....Finnish Diabetes Risk Score
FU .....follow up
GP.....general practitioner
HbA1c .....Haemoglobin A1c
HLE.....Healthy life expectancy
HLQoL.....Health-related Quality of Life
HLY.....healthy life years
HTA .....Health Technology Assessment
ICOPE.....Integrated care for older people Model
IHME.....Institute for Health Metrics and Evaluation
INAHTA.....International Network of Agencies for Health Technology Assessment
IE.....Ireland
kcal.....kilocalorie
LTPA .....Leisure-Time Physical Activity
LQ .....Lebensqualität
MoH .....Ministry of Health
NCD.....Non-communicable disease
NHS .....National Health Service
NHS-EED.....National Health Service – Economic Evaluation Database
NL .....The Netherlands
NRCT.....Non-randomised controlled trial
OECD .....Organisation for Economic Co-operation and Development
OGTT.....Oral glucose tolerance test
QoL ..... Quality of Life
RCT.....Randomised controlled trial
SF-12.....12-Item Short Form Health Survey
SF-36.....36-Item Short Form Health Survey
UK.....United Kingdom
WHO.....World Health Organization

Zusammenfassung

Hintergrund

nicht-übertragbare Krankheiten (NCDs): weltweit häufigste Todesursache & hohe Krankheitslast

gemeinsame, verhaltensbedingte Risikofaktoren

soziale Determinanten der Gesundheit von großer Bedeutung

Nicht-übertragbare Krankheiten (*non-communicable diseases*, NCDs), oder auch chronische Krankheiten, umfassen z. B. Herz-Kreislauf-Erkrankungen, chronische Atemwegserkrankungen, Diabetes, Krebs und psychische Erkrankungen. NCDs betreffen Personen in der Regel über einen längeren Zeitraum und können in einer erheblichen Anzahl der Fälle nicht (vollständig) geheilt werden. Die Betroffenen müssen daher lernen damit zu leben und die Krankheit bestmöglich zu managen. Laut Weltgesundheitsorganisation (WHO) sind sie weltweit die häufigste Todesursache und für 86 % der Todesfälle und 77 % der Krankheitslast in der europäischen Region der WHO verantwortlich. Sie sind auf verschiedene Faktoren zurückzuführen, wie z. B. Verhaltens- und Umweltfaktoren sowie genetische und physiologische Faktoren. Zu den verhaltensbedingten Risikofaktoren zählen ungesunde Ernährung, Tabakkonsum, Alkoholmissbrauch und Bewegungsmangel. Eine wichtige Rolle bei der Entstehung von NCDs spielen jedoch auch soziale Determinanten der Gesundheit, z. B. sozioökonomische, kulturelle und ökologische Bedingungen sowie Lebens- und Arbeitsbedingungen (z. B. Wohnen, Arbeitsumfeld, Bildung), und soziale Netzwerke.

in vielen Ländern NCD-Strategien sowie spezif. Interventionen, z. B. Präventions-, Disease Management Programme

Viele westliche Länder haben Strategien zur Prävention und zum Management von NCDs entwickelt, um die Versorgung chronisch kranker Menschen zu verbessern und die Anzahl der gesunden Lebensjahre zu erhöhen. Österreich liegt in Bezug auf die gesunden Lebensjahre deutlich hinter anderen europäischen Ländern zurück. Eine Vielzahl an unterschiedlichen spezifischen Interventionen und Programmen, wie z. B. Präventions- und Disease Management Programme, wurden bereits entwickelt und in vielen Ländern implementiert.

Ziel des Projekts: Überblick über NCD-Strategien & Programmevaluationen

Fokus auf 4 NCDs

Das Projekt zielt darauf ab, einen Überblick über nationale Strategien zur Prävention und zum Management von 4 NCDs (Herz-Kreislauf-Erkrankungen, chronische Atemwegserkrankungen, Diabetes Typ II und Depression) für ausgewählte westliche, einkommensstarke Länder und deren Implementierung zu geben. Weiters sollen spezifische, bereits evaluierte Programme und Interventionen zu den 4 NCDs identifiziert und deren Evaluationsergebnisse zusammengefasst werden.

Methoden

strukturierte Handsuche

Strategien aus 8 Ländern ausgewählt: DE, CH, NL, FI, IE, UK, CA & AU

Auswahl von 11 spezifischen Programmen

Es wurde eine umfassende strukturierte Handsuche in diversen Datenbanken und Webseiten nach nationalen Strategien zu den 4 oben genannten NCDs durchgeführt. Nach vorab definierten Kriterien wurden nationale Strategien aus folgenden 8 Ländern ausgewählt: Deutschland, Schweiz, Niederlande, Finnland, Irland, Vereinigtes Königreich (*United Kingdom*, UK), Kanada und Australien. Informationen zu den Hauptmerkmalen und dem Implementierungsprozess der Strategien der jeweiligen Länder wurden extrahiert. Nach Erstellung einer Überblicksliste an Programmen, die entweder direkt aus den nationalen Strategien identifiziert oder über anderen Quellen (z. B. Webseiten von Ministerien) recherchiert wurden, wurden gemeinsam mit dem Ministerium für Soziales, Gesundheit, Pflege und Konsumentenschutz (BMSGPK) 11 Programme für eine detaillierte Analyse ausgewählt.

systematische Literatursuche zu den 11 Programmen

21 Artikel eingeschlossen

Um alle veröffentlichten Studien zu den 11 Programmen zu identifizieren, wurde eine systematische Literatursuche in 6 Datenbanken durchgeführt. Nach Deduplizierung lagen 832 Referenzen für das Abstract-Screening vor, wovon 42 Volltexte bestellt wurden. Insgesamt wurden 21 Artikel zu 11 verschiedenen Programmen für die weiterführende Analyse inkludiert und die Studien- und Interventionscharakteristika sowie die Wirksamkeits- und Implementierungsergebnisse extrahiert.

Ergebnisse

Teil I: Übersicht der nationalen Strategien zu nicht-übertragbaren Krankheiten

Teil I: 18 Strategien aus 8 Ländern eingeschlossen

7 Strategien zu NCDs allgemein, 11 zu einzelnen NCDs

meist breite übergeordnete Ziele/ Visionen …

Teil I des Berichts zielt darauf ab, einen Überblick über nationale Strategien zu Prävention und Management von NCDs aus ausgewählten Ländern zu geben (siehe auch Abbildung 1, Seite 17). Es wurden 18 Strategien aus den oben genannten 8 Ländern eingeschlossen. Diese wurden zwischen 2011 und 2020 publiziert und meist von den entsprechenden Gesundheitsministerien herausgegeben. 7 Strategien adressieren NCDs im Allgemeinen, die restlichen 11 Dokumente fokussieren auf mind. eine der 4 Krankheiten[1]: Herz-Kreislauf-Erkrankungen (n=3), chronische Atemwegserkrankungen (n=2), Diabetes Typ II (n=3) und Depression bzw. psychische Gesundheit (n=4). Die meisten Strategien beinhalten Informationen sowohl zur Prävention als auch zum Management der jeweiligen NCDs. Der Großteil formuliert übergreifende Ziele bzw. Visionen (z. B. „ein gesünderes Leben führen“) sowie spezifischere Ziele, welche zu folgenden Themen zusammengefasst werden können:

… sowie spezifische Ziele, die in 10 Themenbereiche zusammengefasst wurden

- Verbesserung der Gesundheit und der Lebensqualität (n=15)
- Prävention von NCDs/chronischen Krankheiten (n=13)
- Verbesserung des Selbstmanagements, Empowerment, Gesundheitskompetenz (n=8)
- Verringerung der gesundheitlichen Ungleichheit (n=8)
- Evidenz und Daten (n=7)
- Kooperation, Kollaboration (n=6)
- Integrierte/koordinierte Versorgung, Management chronischer Erkrankungen (n=5)
- Stigmatisierung und Diskriminierung (n=3)
- Kosten und Ressourcen (n=3)
- Gesunder Lebensstil, gesundes Umfeld (n=2)

Zeitrahmen von 2 bis 10 Jahren

unterschiedliche Stakeholder eingebunden, tw. eigene Boards/ Komitees

Die Strategien wurden für einen Zeitrahmen zwischen 2 und maximal 10 Jahren entwickelt. 7 der identifizierten Strategien befinden sich derzeit noch in der Implementierungsphase. In die Entwicklung und Umsetzung der Strategien wurden unterschiedliche Stakeholder eingebunden, z. B. Ministerien, Gesundheitspersonal, medizinische Fachgesellschaften, Patient*innen und die Zivilbevölkerung, Sozialversicherung, wissenschaftliche Institutionen. Manche Länder entwickelten eigene Strukturen, wie z. B. Boards oder Komitees, für die organisatorische und inhaltliche Umsetzung der Strategien, während andere bereits bestehende Strukturen nutzen. Teilweise werden themenspezifische Arbeitsgruppen eingesetzt. Manche Länder stellen detaillierte Informationen zur Implementierung der Maßnahmen zur Verfügung, z. B. Irland („A 10-step guide“), andere Strategien bleiben diesbezüglich oberflächlich.

[1] 1 Strategie adressiert Herz-Kreislauf-Erkrankungen *und* Diabetes und wird in dieser Aufzählung daher 2 Mal gezählt.

In allen Strategien konnten Informationen (mit unterschiedlichem Detailgrad) zu den geplanten Monitoring- und Evaluierungsprozessen identifiziert werden. 3 Evaluationsberichte aus Deutschland und der Schweiz wurden bereits veröffentlicht. Zur Finanzierung der Entwicklung der Strategien und zur Umsetzung der Maßnahmen finden sich nur vereinzelt detaillierte Informationen in den inkludierten Dokumenten.

Informationen zu Monitoring & Evaluation meist enthalten, zu Finanzierung nur vereinzelt

Alle Strategien beinhalten Informationen zu den geplanten Maßnahmen und Aktivitäten, die durchgeführt werden sollen, um die Ziele der Strategie zu erreichen. Diese wurden zu folgenden Hauptthemen zusammengefasst:

Maßnahmen & Aktivitäten der Strategien zur Zielerreichung wurden in 7 Hauptthemen zusammengefasst

- Gesundheitsförderung, Primärprävention (Verhaltens- und Verhältnisprävention)
- Selbstmanagement, Gesundheitskompetenz
- Früherkennung, Screening
- Krankheitsmanagement, integrierte Versorgung
- Spezifische Maßnahmen für bestimmte Zielgruppen und Populationen mit erhöhtem Risiko
- Aktivitäten außerhalb des Gesundheitssektors
- Digitale Technologien

Es wurden 17 Programme identifiziert, die bereits evaluiert wurden und für eine weiterführende Analyse in Teil II herangezogen werden können. Diese Programme stammen teilweise direkt aus den nationalen Strategien, teilweise wurden sie über andere Quellen (z. B. Webseiten der Ministerien oder Public Health Institute) identifiziert, da manche Strategien auf einem Makro-Level bleiben und keine detaillierten Informationen zu einzelnen Maßnahmen beinhalten.

Identifizierung von 17 bereits evaluierten Programmen, tw. direkt aus Strategien, tw. andere Quellen

Teil II: Evaluierung von Programmen und Interventionen

Von den 17 spezifischen und bereits evaluierten Programmen wurden gemeinsam mit dem BMSGPK 11 Programme aus 6 Ländern (Deutschland, Schweiz, Finnland, UK, Kanada, Australien) für die weitere Analyse in Teil II ausgewählt (siehe Abbildung 2, Seite 18). Zu diesen 11 Programmen wurden 21 Artikel eingeschlossen, welche (teilweise) durch eine ergänzende systematische Suche identifiziert wurden.

Teil II: Auswahl von 11 Programmen gemeinsam mit BMSGPK

Die Studiendesigns waren sehr heterogen und umfassten Evaluierungsberichte, (systematische) Übersichtsarbeiten, eine Metaanalyse, (randomisiert) kontrollierte Studien, Kohortenstudien und eine Querschnittsstudie. In die verschiedenen Studien wurden überwiegend Patient*innen oder Klient*innen und Erwachsene mit Risikofaktoren eingeschlossen. Bei einigen Studien waren die Leistungserbringer*innen, wie z. B. Allgemeinmediziner*innen, die Studienpopulation.

heterogene Studiendesigns

Studienpopulation meist Patient*innen, teilweise Gesundheitspersonal

Die Programme konzentrierten sich auf Krankheitsmanagement (n=5) oder Prävention (n=5). Eine Intervention (Mental Health First Aid) fokussierte auf beides. Es konnte ein breites Spektrum an unterschiedlichen Programmzielen identifiziert werden. Zu den Hauptzielen gehörten die Verbesserung der Qualität der Gesundheitsversorgung und des Zugangs zu Gesundheitsdiensten, die Verbesserung von Behandlungspfaden, die Ausbildung von Fachkräften im Gesundheits- und Sozialwesen, die effiziente Nutzung von Gesundheitsressourcen und die evidenzbasierte Versorgung. Darüber hinaus wurden die Verringerung von Mortalität und Morbidität sowie die Prävention von NCDs durch Verhaltensänderungen und die Verringerung von Risi-

Fokus der Programme auf Krankheitsmanagement (n=5), Prävention (n=5) oder beides (n=1)

unterschiedliche Ziele, z. B. Verbesserung der Qualität der Versorgung, Verringerung von Mortalität & Morbidität

kofaktoren genannt. Weitere Patient*innen-zentrierte Ziele der Programme waren z. B. die Unterstützung bei der Krankheitsbewältigung und des Selbstmanagements sowie die Verbesserung der Lebensqualität und Gesundheitskompetenz. Die wichtigsten Charakteristika der 11 ausgewählten Programme sind auch in Abbildung 2 (Seite 18) zusammengefasst.

Endpunkte für Wirksamkeit & Implementierung berücksichtigt

Die am häufigsten untersuchten Wirksamkeitsendpunkte waren Mortalität, Morbidität, Lebensqualität, Schweregrad der Erkrankung, Wohlbefinden, Selbstmanagement und -wirksamkeit, Risikofaktoren und soziale Unterstützung. Darüber hinaus wurden die Zufriedenheit mit den Programmen und der Gesundheitsversorgung, die Prozessqualität und die Inanspruchnahme der Gesundheitsversorgung untersucht. Reichweite, Dosis und Akzeptanz der Programme waren die am häufigsten bewerteten Implementierungsendpunkte.

keine abschließende Bewertung der Wirksamkeit der einzelnen Programme möglich

allgemein meist positive Effekte, z. B. bzgl. Zufriedenheit, Inanspruchnahme, Gesundheitsverhalten & -zustand, Morbidität, Mortalität, …

Aufgrund der Heterogenität der inkludierten Studien können keine abschließenden Bewertungen der Wirksamkeit der einzelnen Programme getroffen werden. Im Allgemeinen zeigten die meisten Evaluierungen positive Auswirkungen auf die Studienpopulation. Die Studien wiesen z. B. darauf hin, dass sich die Qualität der Gesundheitsdienste und die Prozessqualität nach der Implementierung der Programme verbesserten. Die Inanspruchnahme der Gesundheitsleistungen durch die Teilnehmer*innen nahm zu, und Patient*innen und Programmanbieter*innen waren insgesamt mit den Programmen zufrieden. Die wichtigsten Wirksamkeitsendpunkte wie Mortalität, Morbidität, Lebensqualität, Gesundheitszustand und Selbstwirksamkeit verbesserten sich in den meisten Programmen. Den Evaluationsergebnissen zufolge wirkten sich die Programme positiv auf das Gesundheitsverhalten, die Gesundheitskompetenz und die Fähigkeiten der Patient*innen aus und führten zu einer Reduktion der Risikofaktoren. In jenen Studien mit längerer Nachbeobachtungszeit zeigte sich, dass viele Patient*innen ihr verbessertes Gesundheitsverhalten längerfristig beibehielten.

bei einigen Studien keine signifikanten Verbesserungen bzw. unklare Ergebnisse bzgl. mancher Outcomes

Es gab jedoch auch einige Studien, die bezüglich einiger Outcomes keine signifikanten Verbesserungen durch die Intervention nachweisen konnten bzw. unklare Ergebnisse lieferten, sodass keine allgemeinen Schlussfolgerungen gezogen werden konnten. Dies betraf beispielsweise die Endpunkte Lebensqualität, Schweregrad der Erkrankung, Wohlbefinden, Gesundheitskompetenz, Angst, Depression, Müdigkeit, Krankenhausaufenthalte oder Risikofaktoren wie Bewegungsmangel oder Rauchen.

zu Implementierung wenige Informationen

wichtige Faktoren z. B. multidisziplinäre Teams, finanzielle Ressourcen, nationale Anlaufstellen, …

Im Vergleich zu den Wirksamkeitsergebnissen lieferten weniger als die Hälfte (n=8) aller einbezogenen Studien Informationen über die Implementierung der einzelnen Programme. Nationale Anlaufstellen, Monitoring, Feedback und internationale Zusammenarbeit wurden als entscheidend für eine erfolgreiche Implementierung von Interventionen genannt. Einige Programme wurden von der Regierung unterstützt, was finanzielle Vorteile mit sich brachte und z. B. auch zur Verbreitung des Programms positiv beitrug. Eine evidenzbasierte Grundlage der Programme wurde empfohlen, welche die Glaubwürdigkeit belegt und den Zugang zu finanziellen Mitteln erleichtert. Außerdem zeigten die Ergebnisse, dass ein multidisziplinäres Team mit Austauschtreffen, regelmäßigen Patient*innenkontakten und Follow-ups unerlässlich sind.

meist hohe Beteiligung & positive Bewertung von Patient*innen & Anbieter*innen

Die hohe Beteiligung von Patient*innen und Programmanbieter*innen zeigte, dass die Programme gut angenommen wurden. Viele Programmanbieter*innen bewerteten die Programme als positiv und waren motiviert die Umsetzung in ihrer Praxis fortzusetzen. Sie wiesen jedoch auf erhöhten Bedarf an Fortbildung, Unterstützung und Ressourcen hin. Außerdem wurde festge-

stellt, dass die Organisation und Abrechnung der Programme optimiert werden muss. Einige Studienautor*innen empfahlen die Fortsetzung und Verbreitung der Programme und betonten die Notwendigkeit langfristiger Evaluierungen.

aber auch erhöhter Bedarf an Ressourcen & Fortbildung

Diskussion

Die Analyse der nationalen Strategien in *Teil I* hat gezeigt, dass der Organisationsgrad der identifizierten Strategien in den einzelnen Ländern sehr unterschiedlich ist: während manche Länder von einer übergeordneten Makro-Ebene bis zu den konkreten Maßnahmen auf einer Mikro-Ebene durchorganisiert sind und diesbezüglich auch detaillierte Informationen zur Verfügung stellen (Bsp. Schweiz), bleiben andere Strategien sehr oberflächlich. Für manche Länder konnten gar keine NCD-Strategien ermittelt werden.

Organisationsgrad der Strategien sehr heterogen: tw. gut durchdacht, tw. eher oberflächlich

Wie vom BMSGPK vorgegeben, lag der Fokus des Berichts auf Interventionen, die innerhalb des Gesundheitssystems durchgeführt werden. Die identifizierten Strategien umfassten aber auch Beispiele für (geplante) Maßnahmen außerhalb des Gesundheitssystems, wie z. B. die Entwicklung gesunder Lebensräume oder die Verbesserung von Gesundheitskompetenz (v. a. mit Fokus auf psychische Gesundheit) in der Schule und am Arbeitsplatz. Die Strategien beziehen sich dabei z. B. auf das Modell der Gesundheitsdeterminanten von Dahlgreen & Whitehead, das die wichtigsten Einflussfaktoren auf die Gesundheit der Bevölkerung zusammenfasst: von den individuellen biologischen Faktoren und dem Gesundheitsverhalten, über soziale Netzwerke und Lebens- und Arbeitsbedingungen, bis zu den sozioökonomischen, kulturellen und ökologischen Bedingungen.

Fokus auf Interventionen im Gesundheitssystem

aber auch Beispiele für andere Maßnahmen in den Strategien

Bezug auf Modell der Gesundheitsdeterminanten

Werden diese Gesundheitsdeterminanten und die damit verbundenen strukturellen Präventionsansätze nicht berücksichtigt, besteht die Gefahr, dass sich gesundheitliche Ungleichheiten verstärken. Viele der inkludierten NCD-Strategien adressieren dieses Problem, indem sie Maßnahmen zur Verringerung gesundheitlicher Ungleichheiten vorsehen und sich beispielsweise auf benachteiligte Gruppen oder auf Gruppen mit hohen Gesundheitsrisiken konzentrieren. Systemweite Anstrengungen zur Verbesserung der sozialen Gesundheitsdeterminanten umfassen beispielsweise die frühkindliche Förderung, lebenslanges Lernen, die Verbesserung von Arbeitsbedingungen, die Verringerung der Armut und die Gewährleistung gesunder Lebens- und Wohnverhältnisse.

tw. Maßnahmen zur Verringerung gesundheitlicher Ungleichheiten bzw. Fokus auf sozial benachteiligte oder Risikogruppen

Teil II bietet einen Überblick über die Evaluationsergebnisse zu 11 spezifischen Programmen, die gemeinsam mit dem BMSGPK ausgewählt wurden. Die Programme haben unterschiedliche Schwerpunkte, z. B. Prävention oder Krankheitsmanagement, verschiedene Studienpopulationen und Indikationen. Bei den meisten Disease Management oder Präventionsprogrammen liegt der Fokus auf der Interaktion zwischen den Patient*innen und dem Gesundheitspersonal (meist Hausärzt*innen). Es wurden jedoch 2 Programme mit einem anderen Ansatz einbezogen: Bei „Making every contact count" (MECC) wird das Personal im Gesundheits- und Sozialwesen mit „gesunden Gesprächskompetenzen" ausgestattet. Ziel ist es, diese Kompetenzen in alltäglichen Interaktionen mit Patient*innen einzusetzen, und diese dabei zu unterstützen, positive Veränderungen ihrer körperlichen und/oder psychischen Gesundheit herbeizuführen. Bei dem Programm „Mental Health First Aid" (MHFA) können alle interessierten Personen in Schulungen lernen, wie man Anzeichen und Symptome von psychischen Problemen bei z. B. Familienmitgliedern, Freund*innen, Kolleg*innen erkennen und erste Hilfe leis-

11 Programme mit unterschiedlichen Schwerpunkten, Studienpopulationen & Indikationen

Fokus meist auf Interaktion zwischen Patient*in & Ärzt*in

2 Programme mit anderem Ansatz: Mental Health First Aid & Making Every Contact Count

ten sowie an professionelle Unterstützung weiterleiten kann. Ziel ist es, die psychische Gesundheitskompetenz in der Allgemeinbevölkerung zu stärken.

Disease Management Programme in D seit 2002

Weiters wurden 3 deutsche DMPs inkludiert, welche in Deutschland im Jahr 2002 auf nationaler Ebene eingeführt wurden und seitdem Gegenstand einer anhaltenden Debatte über ihre Evaluierung und Wirksamkeit sind. In Deutschland ist die regelmäßige Evaluation der DMPs gesetzlich verankert, aber ein Vergleich der Daten von DMP-Teilnehmer*innen mit einer Kontrollgruppe ist nicht vorgeschrieben. Randomisiert kontrollierte Studien, der Goldstandard für die Effektmessung, sind für bereits implementierte DMPs nicht mehr möglich. Der rein deskriptive Charakter der offiziellen Evaluationsberichte, der die Entwicklung der Programme aufzeichnet, und der fehlende Vergleich zwischen DMP und Standardversorgung schränken die Interpretation der Daten hinsichtlich der Wirksamkeit der DMP stark ein.

gesetzlich verankerte Evaluation: rein deskriptiv, keine Kontrollgruppe

Beispiele für qualitativ hochwertige Evaluationsdesigns

Einige der in diesem Bericht inkludierten Studien zeigen jedoch, dass hochwertige Evaluationsdesigns bei der Bewertung von Programmen zur Prävention und zum Management von NCDs möglich sind, auch wenn die Interventionen in der Regel komplex sind und eine Reihe von Akteur*innen und Prozesskomponenten umfassen.

nur wenige Informationen zur Implementierung

In den Studien wurde den Wirksamkeitsergebnissen mehr Gewicht beigemessen als der Programmimplementierung. Dies schränkt das Verständnis der Durchführbarkeit und Akzeptanz der Maßnahmen sowie der Übertragbarkeit auf andere Länder ein.

Limitationen

Fokus auf 4 NCDs, daher z. B. Krebs nicht berücksichtigt

Fokus auf Erwachsene, nicht Kinder & Jugendliche

Lebensphasen-Ansatz wichtig

Der Bericht umfasste Strategien und spezifische Programme, die sich mit einer oder mehreren der 4 NCDs befassten. Andere weit verbreitete NCDs wie Krebs oder muskuloskelettale Erkrankungen waren nicht Gegenstand des Berichts. Außerdem zielte das Projekt darauf ab, Strategien und Programme zusammenzufassen, welche sich in erster Linie an Erwachsene und nicht an Kinder und Jugendliche richteten. Insbesondere bei der Prävention von NCDs ist jedoch ein die Lebensphasen berücksichtigender Ansatz sinnvoll, um die Bedürfnisse aller Altersgruppen zu beachten und in der Kindheit anzusetzen. Dieser Ansatz ist auch von entscheidender Bedeutung, um die gesundheitlichen Ungleichheiten zu bekämpfen. Es hat sich zudem gezeigt, dass Gesundheitsförderung und Prävention im frühen Kindesalter (insbesondere im Hinblick auf die psychische Gesundheit) besonders vielversprechend sind, was den „return on investment" betrifft.

Fokus auf Maßnahmen innerhalb des Gesundheitssystems, jedoch tw. nicht abgrenzbar

Darüber hinaus konzentrierte sich der Bericht gemäß der Vorgabe des Gesundheitsministeriums hauptsächlich auf Maßnahmen, die innerhalb des Gesundheitssystems durchgeführt werden. Aktivitäten außerhalb des Gesundheitssystems, im Sinne von „Health in All Policies", wurden in der Regel nicht berücksichtigt. Diese Maßnahmen lassen sich jedoch nicht immer klar voneinander abgrenzen, da sie oft Hand in Hand gehen.

nur deutsch- & englischsprachige Strategien eingeschlossen

Strategien tw. nur in Landessprache verfügbar

Die nationalen NCD-Strategien für *Teil I* wurden mittels einer strukturierten und umfangreichen Handsuche identifiziert. Eine systematische Literaturrecherche in Datenbanken wurde nicht durchgeführt, da die nationalen Strategien häufig auf Webseiten, z. B. der jeweiligen Gesundheitsministerien, veröffentlicht werden. Eine weitere Einschränkung ist, dass Strategien nur in englischer oder deutscher Sprache eingeschlossen werden konnten. Einige Länder stellen ihre Strategien nur in der jeweiligen Landessprache zur Verfügung und konnten daher nicht berücksichtigt werden. Wir konnten jedoch

ein breites Spektrum von Ländern mit unterschiedlichen Public-Health-Traditionen und unterschiedlichen Gesundheitssystemen einbeziehen, wobei der Schwerpunkt auf Europa lag, aber auch Strategien von 2 nicht-europäischen Ländern inkludiert wurden.

selektiver Einschluss der Artikel zu den 11 Programmen, Kriterien: Studiendesign, möglichst rezent

keine Bewertung des Bias-Risikos

Für den *Teil II* wurden, gemeinsam mit dem BMSGPK, vorrangig Programme mit potenzieller Übertragbarkeit und Umsetzbarkeit für das österreichische Gesundheitssystem ausgewählt. Es wurde eine systematische Literatursuche zu den 11 Programmen durchgeführt und in weiterer Folge diejenigen Artikel ausgewählt, deren Studiendesign auf eine hohe Qualität der Evidenz hindeutete (sofern vorhanden) und die möglichst rezent waren. Die eingeschlossenen Studien und Programme waren sehr heterogen, wodurch ein Vergleich der Ergebnisse nicht möglich war. Ziel dieses Berichts war es, einen Überblick über bestehende Programme zu geben und nicht zu bewerten, welches Programm am wirksamsten ist. Daher wurde keine Bewertung des Bias-Risikos vorgenommen.

Conclusio

nationale NCD-Strategien mit unterschiedl. Detail- & Organisationsgrad

- Viele westliche Länder wenden nationale Strategien an, die sich mit der Prävention und/oder dem Management von NCDs befassen. Diese unterscheiden sich erheblich in Bezug auf ihren Detailgrad, ihre Struktur und Implementierung.

Ziele der Strategien

- Die Ziele der identifizierten Strategien umfassen u. a. die Prävention von NCDs, die Verbesserung der Gesundheit und der Lebensqualität, die Stärkung des Selbstmanagements und der Gesundheitskompetenz, den Abbau gesundheitlicher Ungleichheiten und die Bereitstellung integrierter Versorgung für chronische Erkrankungen.

spezifische Aktivitäten & Maßnahmen zur Zielerreichung

- Alle Strategien enthalten Informationen über spezifische Maßnahmen und Aktivitäten, die zur Erreichung der Ziele durchgeführt werden sollen, aber nur einige Strategien enthalten detaillierte Informationen über diese Programme und Interventionen, einschließlich ihrer Evaluierung.

Programm-Auswahl zeigt unterschiedliche Ansätze

- Es wurde eine Reihe von Programmen ausgewählt, um einen Überblick über die verschiedenen möglichen Ansätze in Bezug auf Inhalt, Setting, Berufsgruppen, Ergebnisse und Evaluationsdesigns zu geben.

oft positive Ergebnisse zur Wirksamkeit, aber nicht alle Studien mit hohem Evidenzgrad

- Die meisten Evaluierungen zeigten positive Effekte hinsichtlich der Wirksamkeit (z. B. Mortalität, Morbidität, Lebensqualität, Selbstmanagement, Inanspruchnahme der Gesundheitsversorgung) und/oder der Implementierung (z. B. Akzeptanz, Erfahrungen mit den Programmen). Es wurden unterschiedliche Studiendesigns einbezogen, auch welche mit niedrigerem Evidenzgrad.

„Health in All Policies" Ansatz

- Der Bericht konzentrierte sich hauptsächlich auf Interventionen innerhalb des Gesundheitswesens. Für die Prävention und das Management von NCDs ist jedoch ein „Health in All Policies"-Ansatz erforderlich, um die sozialen Determinanten der Gesundheit angemessen zu berücksichtigen.

breiter Überblick über Strategien & Programme, keine abschließende Bewertung der Wirksamkeit

- Der Bericht kann keine abschließende Bewertung zur Wirksamkeit einzelner Maßnahmen liefern, sondern gibt einen breiten Überblick über verschiedene Strategien und unterschiedliche Ansätze zur Prävention und Management von NCDs. Vor der Adaptierung und Implementierung einer spezifischen Intervention sollte eine eingehende Analyse der verfügbaren Evidenz durchgeführt werden.

Schlussfolgerungen für die Gesundheitspolitik:

strukturierter Ansatz von Makro- bis Mikroebene

- Ein strukturierter Ansatz für Strategien und Programme von der Makro- bis zur Mikroebene scheint entscheidend, um eine umfassende, koordinierte Gesamtpolitik zu erreichen.

regelmäßige Evaluierung

- Strategien und Programme sollten regelmäßig mit geeigneten Methoden evaluiert werden, um die Zielerreichung und (langfristige) Wirksamkeit zu messen. Außerdem sollten Implementierungsparameter ausreichend berücksichtigt werden.

Vorab-Planung der Evaluierung & Pilotierung von Programmen

- Evaluierungskonzepte sollten entwickelt werden, bevor die Programme eingeführt werden. Idealerweise werden die Programme vor einer flächendeckenden Einführung vorab pilotiert. Dies bietet die Möglichkeit, Regionen, in denen die Programme umgesetzt werden, mit solchen zu vergleichen, in denen sie nicht umgesetzt werden.

„Health in All Policies" Ansatz, gesundheitliche Ungleichheit

- NCD Prävention und Management erfordern einen „Health in All Policies"-Ansatz, um die sozialen Determinanten der Gesundheit angemessen zu berücksichtigen. Die Aufmerksamkeit muss auf die Verteilungseffekte von NCD-Strategien und spezifischen Programmen gelenkt werden, um eine Verstärkung der gesundheitlichen Ungleichheiten zu vermeiden.

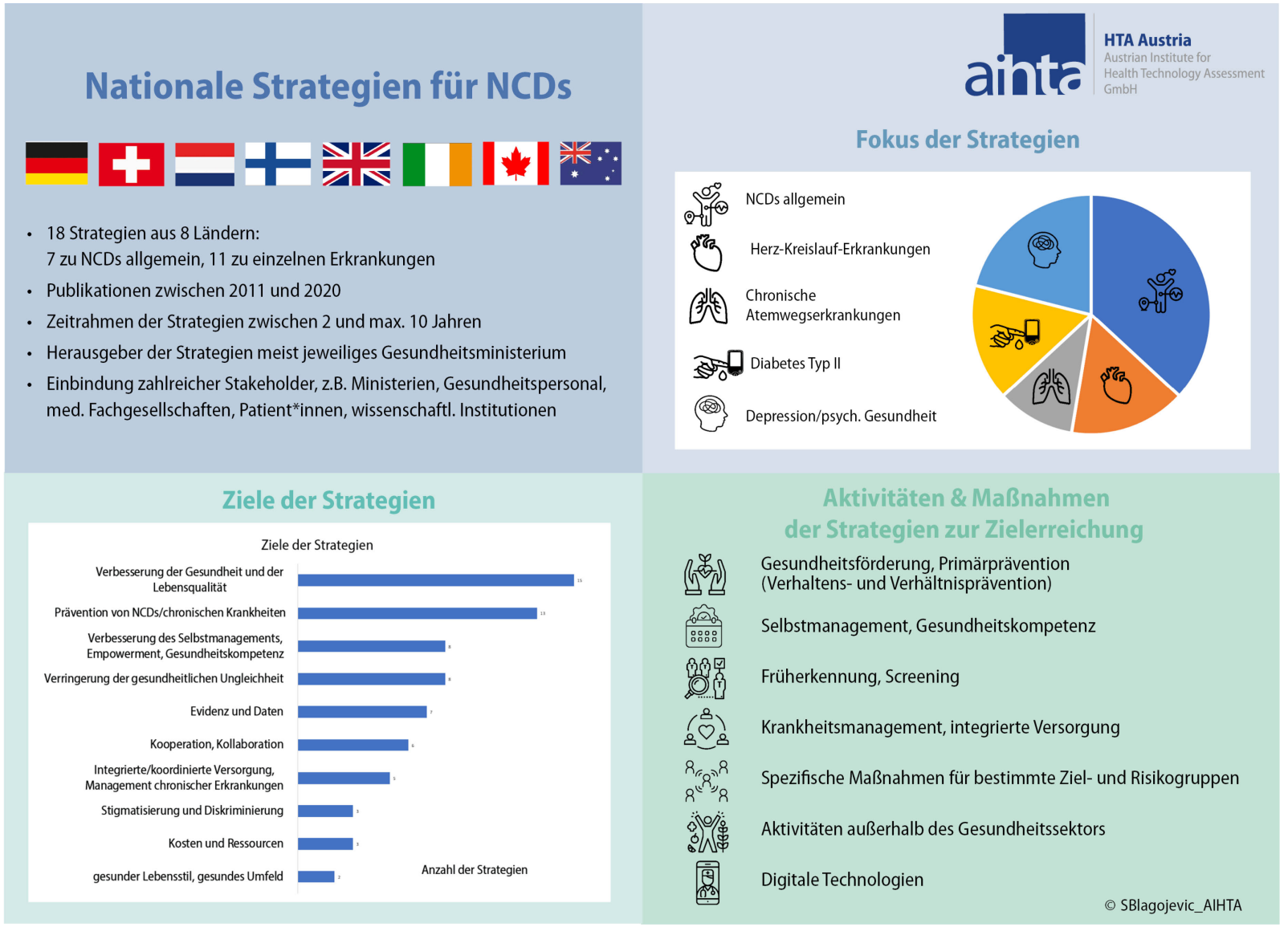

Abbildung 1: Zusammenfassung der wichtigsten Ergebnisse zu den NCD-Strategien

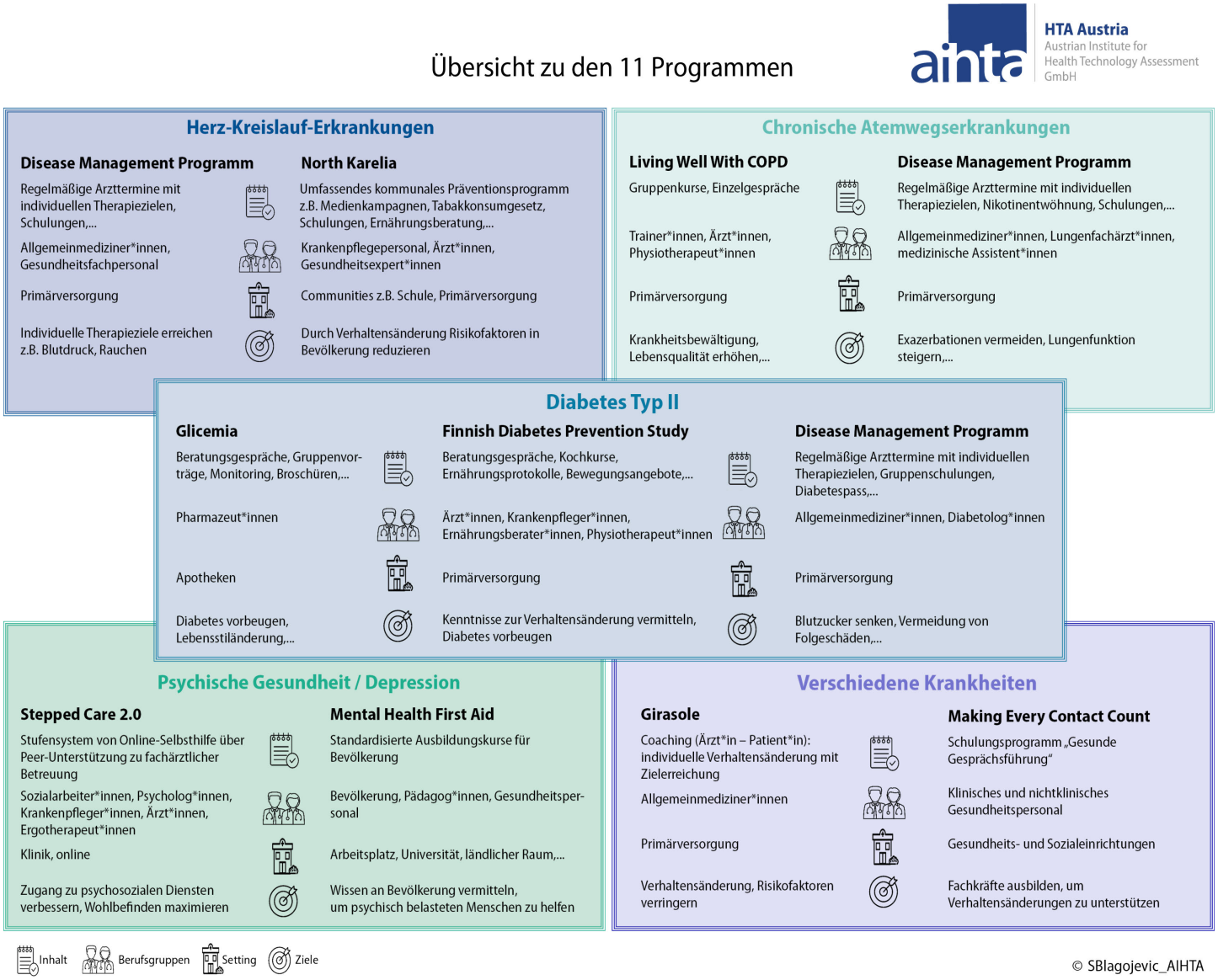

Abbildung 2: Zusammenfassung der Interventionscharakteristika der 11 Programme

Executive Summary

Background

high morbidity & mortality from non-communicable diseases (NCDs)

Non-communicable diseases (NCDs), or chronic diseases, include, e.g., diabetes, cardiovascular diseases (CVDs), cancer, chronic respiratory diseases, and mental disorders. They are the leading cause of death worldwide, accounting for 86% of deaths and 77% of the disease burden in the WHO European Region. Many Western countries have developed strategies for the prevention and management of NCDs in order to improve the care of chronically ill people and to increase the number of healthy life years. Austria lags significantly behind other European countries in terms of healthy life years. Various specific interventions and programmes, such as prevention and disease management programmes (DMPs), have already been implemented in many countries.

NCD strategies and specific prevention & disease management programmes in many countries

focus of the report on 4 NCDs

This project aims to, 1. provide an overview of national strategies for preventing and managing 4 NCDs (CVDs, chronic respiratory diseases, diabetes type II and depression) in selected Western, high-income countries and their implementation (part I); and, 2. to identify specific, evaluated programmes and interventions for the 4 NCDs and summarise their evaluation results (part II).

Methods

structured hand search for national NCD strategies

A comprehensive, structured hand search was conducted in various databases and websites for national NCD strategies. We selected strategies from the following 8 countries: Germany, Switzerland, Netherlands, Finland, Ireland, United Kingdom (UK), Canada and Australia. Main characteristics and information on the implementation process of the policies were extracted. A range of specific programmes was either identified directly from the strategies or researched through other sources. Of these, 11 programmes were selected for a detailed analysis together with the Austrian Ministry of Social Affairs, Health, Care and Consumer Protection. To identify all published studies on these programmes, a systematic literature search was conducted in 6 databases. After deduplication, 832 references were available for abstract screening, of which 42 full texts were ordered. A total of 21 articles on 11 different programmes were included for further analysis, and the study and intervention characteristics, as well as the effectiveness and implementation outcomes, were extracted.

selection of 11 programmes

systematic literature search

inclusion of 21 articles

Results

part I: 18 strategies from 8 countries identified

For *part I*, we included 18 NCD strategies from the 8 selected countries, which were published between 2011 and 2020, mainly by the respective ministries of health. 7 strategies address NCDs in general, the remaining 11 documents focus on at least 1 of the 4 diseases[2]: CVDs (n=3), chronic respiratory diseases (n=2), diabetes type II (n=3), and depression/mental health (n=4). Most strategies include information on both prevention *and* management of the respective NCDs. The majority formulate overarching visions (e.g. 'lead a healthier life') as well as more specific goals, which can be grouped into 10

7 strategies on NCDs in general, 11 disease-specific

vision & aims of the strategies

[2] 1 Strategy addresses cardiovascular disease *and* diabetes.

themes: improvement of health and quality of life, prevention of NCDs, improvement of self-management and health literacy, reduction of health inequalities, etc.

time frame 2-10 years

involvement of various stakeholders, sometimes specific boards or committees

evaluation and monitoring

activities and measures were grouped into 7 themes

The strategies were developed for a time frame between 2 and 10 years. Different stakeholders were involved in the process, e.g. ministries, health professionals, medical associations, patients, and scientific institutions. Some countries established their own structures responsible for implementing the strategies (e.g., boards or committees), while others used already existing structures. All strategies reported on the planned monitoring and evaluation processes. Detailed information on the strategies' financing of the development and the implementation of the measures can only be found in some of the included documents. All strategies include planned measures and activities to be undertaken to achieve the strategy's aims. These have been grouped into 7 main themes: health promotion & primary prevention, self-management & health literacy, early detection & screening, disease management & integrated care, target group-specific measures & populations at high risk, activities outside the health sector, and digital technologies.

part II: 11 programmes with different approaches regarding content, setting, population, professional groups, outcomes, study designs

mostly positive results of the evaluations, but sometimes no significant improvements

important factors for implementation

For *part II*, we included 21 studies reporting on 11 specific programmes from 6 countries. A range of programmes was selected to give an overview of different possible approaches in terms of content (e.g., prevention programme, DMP), setting (e.g., primary care, pharmacy, community), study populations (e.g., patients, adults with risk factors, the general public), involved professional groups (e.g., general practitioners, health professionals), analysed outcomes (e.g., mortality, morbidity, quality of life, health care utilisation, acceptance, satisfaction with the programme) and evaluation designs (e.g., single-arm studies, controlled studies, randomised controlled trials, systematic reviews). Aims of the identified programmes included, e.g., improving the quality of health care and access to services, reducing mortality and morbidity, preventing NCDs, enabling self-management, or improving quality of life. Most evaluations showed positive effects regarding effectiveness and/or implementation outcomes. However, some studies failed to demonstrate significant improvements, or no general conclusions could be made. Some evaluation studies mentioned important factors for the successful implementation of such programmes, including national focal points, monitoring and evaluation, international collaboration, staff training, multidisciplinary teams, as well as sufficient resources and support.

Discussion and conclusion

heterogeneity of NCD strategies and programmes

structured approach from macro to micro level important

Many Western countries have national NCD strategies and policies that differ substantially in terms of their level of detail, structure and implementation. All identified strategies include information on specific activities to be carried out to reach the aims, but only some strategies give detailed information on these interventions, including on their evaluation. A range of programmes was selected to give an overview of different approaches in terms of content, setting, professional groups, outcomes and evaluation designs. A structured approach of strategies and programmes from a macro to a micro level seems crucial to achieving a comprehensive, coordinated overall policy.

piloting before implementation, regular evaluation

Strategies and programmes should be regularly evaluated using appropriate methods to measure target achievement and (long-term) effectiveness. Additionally, implementation parameters need to be sufficiently addressed. Evaluation designs need to be developed before programmes are implemented, and ideally, programmes are piloted before large-scale role-outs.

'Health in All Policies' approach crucial, also for reducing health inequalities

As specified by the Austrian Ministry of Social Affairs, Health, Care and Consumer Protection, the report's focus was on interventions implemented within the health system. However, NCD prevention and management need a 'Health in All Policies' approach in order to adequately address the social determinants of health. Special attention needs to be drawn to distributional effects of NCD strategies and specific programmes, thus avoiding reinforcing health inequalities.

broad overview of strategies & programmes, no conclusive assessment of effectiveness

Finally, it should be noted that the report cannot provide a conclusive assessment of the effectiveness of individual interventions but gives a broad overview of different strategies and diverse approaches to NCD prevention and management. Before adapting and implementing a specific intervention, an in-depth analysis of the available evidence should be conducted.

1 Background

1.1 Introduction

nicht-übertragbare Krankheiten (NCDs), z. B. Diabetes, Krebs, kardiovaskuläre, chronische Atemwegs- & psychische Erkrankungen

hohe Morbidität & Mortalität

Non-communicable diseases (NCDs), also known as chronic diseases, are a globally increasing concern for national governments and society due to their high mortality and morbidity [1, 2]. These medical conditions are associated with slow progress and long durations [2] and include, e.g., diabetes, cardiovascular diseases (CVDs), cancer, chronic respiratory diseases, and mental disorders [1]. According to the World Health Organization (WHO), they are the leading cause of deaths worldwide [2], accounting for 86% of mortality and 77% of disease burden in WHO European Regions [1]. They result from several factors, e.g., behavioural, environmental, genetic, and physiological factors. CVDs, cancers, chronic respiratory diseases, and diabetes are the top 4 causes of premature mortality among NCDs [2].

viele Länder haben NCD-Strategien

Ziele: Prävention, Verbesserung der Versorgung, Erhöhung der gesunden Lebensjahre

Many western countries apply strategies to prevent and manage NCDs in order to improve the care for chronically ill people and extend the number of healthy life years (HLY, see chapter 1.3), i.e., the number of years that a person is expected to continue to live in a healthy condition without limitation in functioning and disability [3]. The 10 Austrian health targets, developed in 2012, aim to prolong the HLY of all people living in Austria within 20 years [4]. Austria significantly lags behind other countries in terms of HLY: In 2019, the number of HLY at birth was estimated at 58 years for women and 57 years for men in Austria. In contrast, the mean number of HLY in the European Union is 65 for women and 64 for men [5].

spezif. Interventionen, z. B. Präventions-, Disease Management Programme

Various specific interventions and programmes exist in various countries, e.g., prevention and disease management programmes (DMPs). Therefore, the question arises which national strategies to prevent and manage NCDs are used in different countries and which specific interventions/programmes are implemented and evaluated.

Fokus des Berichts: kardiovaskuläre & chronische Atemwegserkrankungen, Diabetes Typ II, Depression

Our analysis focuses on the following NCDs[3]:

- CVDs,
- chronic respiratory diseases,
- diabetes type II,
- depression.

[3] For further clarification and information see Methods, chapter 2.

1.2 Non-communicable diseases

1.2.1 Burden of disease and mortality through NCDs

NCDs = häufigste Ursache für Tod, Behinderung, Krankheit in Europa

The leading cause of death, disability and disease in the WHO European Region are NCDs. They are responsible for growing health inequalities observed in many countries, demonstrating socio-economic gradient and gender differences; European women live approximately 8 years longer than men [6].

global: ⅔ der Todesfälle durch NCDs

Globally, more than half (63%, 36 million) of all deaths in 2008 were due to NCDs, comprising 48% of CVDs. More than 14 million people died between 30 and 70 years old [7]. More recent data show that 71% of all deaths globally are caused by NCDs, equivalent to 41 million peoples' death.[4]

Europa: ⅔ der vorzeitigen Todesfälle durch die 4 häufigsten NCDs

tw. durch Reduktion der wichtigsten Risikofaktoren vermeidbar

In the European region, ⅔ of premature deaths are caused by the 4 major NCDs, i.e., CVD, diabetes, cancers, and chronic respiratory diseases. A part of these NCDs could be prevented by tackling major risk factors (such as malnutrition, physical inactivity, smoking, alcohol use, hypertension, obesity, and environmental factors) [8]. Furthermore, in the European Union, the prevalence of common chronic disorders was reported to be up to 50% among adults aged 18 years or older [9]. Nevertheless, people live longer with disabilities resulting from chronic diseases, as premature mortality reduces. Multimorbidity affects 65% of people over 65 years, requiring more patient-centred and complex care models [8].

Entwicklung von nationalen integrierten Strategien zur Kontrolle & Prävention von NCDs erforderlich

By 2030, NCDs' total number of deaths will rise to 55 million, according to the WHO's projection, if nothing changes. Cost-effective curative and preventive action can significantly reduce NCD burden, along with already available NCD control and preventive interventions [7]. However, NCDs and their challenges cannot be dealt with within the health sector alone. New health policies are required to develop national integrated strategies for NCD control and prevention [10].

Ö 2019: 39 % der Frauen & 37 % der Männer mit chronischer Krankheit

In 2019, around 2.8 million people in Austria over 15 years of age reported having a permanent illness or chronic health problem. Women (39%) suffered slightly more often from chronic disease than men (37%) [11].

Gesundheitsschätzungen in Ö: NCD-Ranking

Herz-Kreislauf-Erkrankungen an 1. Stelle

The health estimates for Austria of the Institute for Health Metrics and Evaluation (IHME) present a ranking of diseases using the IHME Data Visualisation tool[5], displaying DALYs (disability-adjusted life years) (see Figure 1-1). CVDs are ranked as the top 1 condition, followed by neoplasms and musculoskeletal disorders. Looking at the Austrian top 9 conditions of the Global Burden of Disease Study 2019 [12], all 4 for this report selected NCDs are included. Global Health Estimates provide the latest available data on disability and death, by country and region, and by sex, age, and cause[6].

[4] Non-communicable diseases: Key facts: https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases (accessed 11/11/2021)

[5] IHME Data Visualisation tool (input parameters: both sexes, all ages, percent of total DALYs): http://www.healthdata.org/data-visualization/gbd-compare (accessed 11/11/2021)

[6] WHO's Global Health Estimates: https://www.who.int/data/global-health-estimates (accessed 10/11/2021)

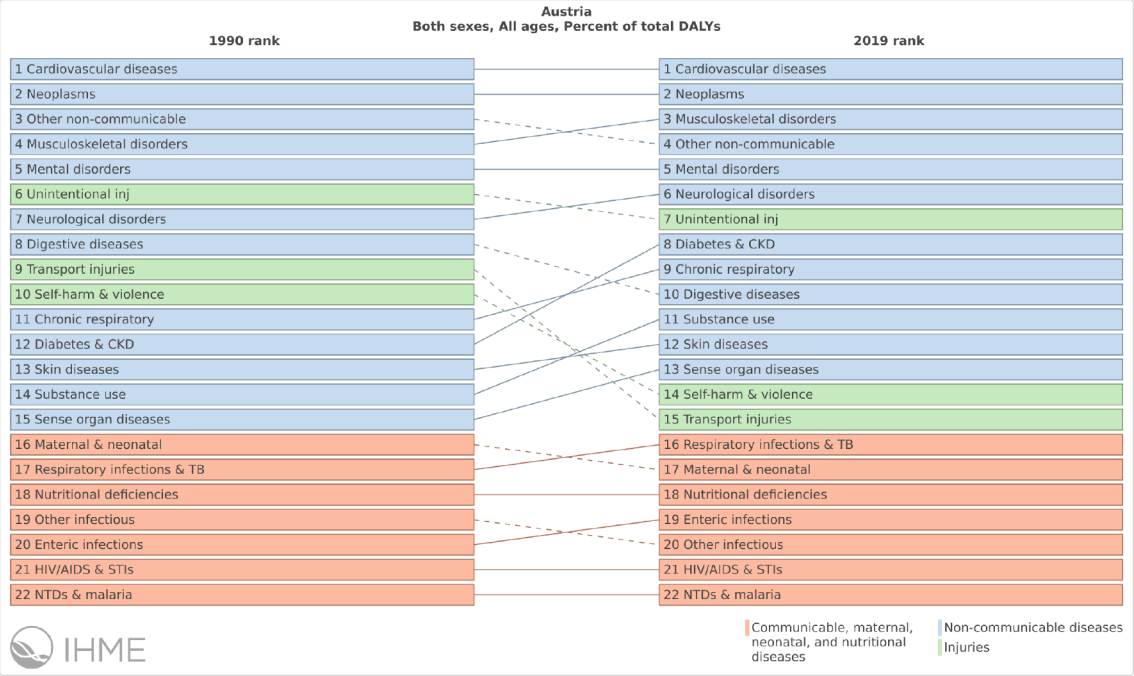

Figure 1-1: Health estimates for Austria of the Institute for Health Metrics and Evaluation
Quelle: IHME Data Visualisation tool (input parameters: both sexes, all ages, percent of total DALYs): http://www.healthdata.org/data-visualization/gbd-compare *(accessed 11/11/2021)*

1.2.2 Common risk factors

verhaltensbedingte Risikofaktoren: Ernährung, Tabak, Alkohol, Bewegung

NCDs share 4 main behavioural risk factors: unhealthy diet, tobacco, harmful use of alcohol, and physical inactivity [7]. Fortunately, the European health report 2015 [13] describes a clear downward trend in alcohol intake, smoking, and CVD death rates [8].

österr. Zahlen zu 30-59-J.: fast 50 % übergewichtig/ adipös, ⅓ konsumiert täglich Obst & Gemüse

However, the prevalence of these risk factors in Austria is still high: 33% of Austrians between 30 and 59 years of age are overweight, and almost 15% are obese. Concerning nutrition, ⅓ of the Austrian population between 30 and 59 years reports eating fruits and vegetables every day. Additionally, 19% of people eat fruits (but no vegetables) daily, 13% eat vegetables (but no fruits) daily. ⅓ of this age group reports eating neither one nor the other daily [14].

21 % erfüllen Empfehlungen für gesundheitswirksame Bewegung

Almost half of the Austrian women and men between 30 and 59 years are physically active for 150 minutes per week. Only 21% of Austrians in this age group meet both recommendations for healthy physical activity (150 minutes per week plus muscle-strengthening exercises at least 2 days per week) [14].

29 % rauchen täglich, 6 % gelegentlich; 16 % haben problematischen Alkoholkonsum

Regarding smoking, around 29% of 30 to 59-year-old Austrians smoke daily and 6% occasionally. 41% of 30 to 59-year-olds have never smoked daily. 15% of the Austrian population aged 30 to 59 consume alcohol daily or almost daily (i.e. 5 to 7 days a week). 16% of this age group show problematic alcohol consumption [14].

soziale Gesundheits-Determinanten wichtige Rolle ...

Apart from the behavioural health determinants just mentioned, the living conditions play an essential role in developing NCDs. In 2016, 12% of the Austrian population between 30 and 59 years were at risk of poverty, and 18%

... 18 % armuts-/ausgrenzungsgefährdet

at risk of poverty and/or exclusion. Considering the housing conditions, about 6% live in overcrowded flats, and 11% are affected by dampness and mould in their homes. 12% are severely or very severely disturbed by noise during the day and/or at night (e.g., from traffic or construction sites) [14].

16 % maximal Pflichtschulabschluss, 9 % arbeitslos, hohe Belastungen am Arbeitsplatz

Education is a key factor influencing health because it is not only related to health literacy and consequently to health behaviour, but also to labour market opportunities, income (poverty) and other living conditions. In 2016, 18% of Austrian 30 to 59-year-old men and women had at most completed compulsory education. In 2017, 9% of this age group were unemployed, and ⅓ had atypical employment, such as fixed-term contracts. Work-place stress is generally high: 74% are affected by physical stress, and 42% report time pressure and work overload [14].

1.2.3 Cardiovascular diseases

Herz-Kreislauf-Erkrankungen: Gruppe von Erkrankungen des Herzens & der Blutgefäße

The term CVD is not used consistently in the literature. According to the WHO, it refers to a group of diseases of the heart and blood vessels. This group includes:

- coronary artery disease,
- cerebrovascular diseases,
- peripheral arterial disease,
- rheumatic heart disease,
- congenital heart disease,
- deep vein thrombosis, and
- pulmonary embolism [15].

Ursache häufig Arteriosklerose

Responsible for the majority of CVDs is arteriosclerosis, the result of a complex interaction of both modifiable and nonmodifiable factors (physical, behavioural, psychological and social factors). Arteriosclerosis describes an ageing process of the vessels, resulting in a loss of elasticity of the arterial wall and/or a narrowing of the vessel diameter [15].

lebensstilbezogene Risikofaktoren wie hoher BMI, Bewegungsmangel besonders relevant

Lifestyle-related factors are of particular importance in this context. On the one hand, they contribute to the development of physical factors, are influenced by social conditions on the other hand, and are, in principle, modifiable [15]. The European Association of Preventive Cardiology stated in 2017 that only ¼ of the Austrian adults reported fulfilling the WHO and European Society of Cardiology recommendations on physical activity. ⅓ did not perform any physical activity, and ½ of the adult population had a body mass index (BMI) of ≥ 25 kg/m² [16].

Ö 2011: ca. 437.000 Patient*innen mit Herz-Kreislauf-Erkrankungen, mehr Männer als Frauen betroffen

In Austria, in 2011, between 17,000 and 25,000 new CVD cases were documented depending on the indication. According to the diagnosis and service documentation of the Austrian hospitals (DLD, Diagnose- und Leistungsdokumentation der österreichischen Krankenanstalten), in 2011, CVDs were documented in approximately 437,000 patients. This represents about 19% of all inpatient admissions. Furthermore, more CVDs occur in men than women [15].

ca. 45 % der Todesfälle darauf zurückzuführen

CVDs are among the most common NCDs worldwide and are responsible for approximately 45% of mortality in Western countries and about 25% of total mortality in developing countries. Every year, around 17.3 million people worldwide die due to CVDs and approximately 2 million people in Europe. Projections indicate that CVDs are expected to rise to about 23.6 million worldwide by 2030 [15].

1.2.4 Chronic respiratory diseases

Chronic respiratory diseases include diseases in the airways and other structures in the lungs and comprise

- asthma and respiratory allergies,
- COPD,
- occupational lung diseases,
- pulmonary hypertension, and
- sleep apnoea syndrome [2].

chronische Atemwegserkrankungen umfassen z. B. Asthma & COPD

Age increases mortality and morbidity of chronic respiratory diseases, and their risk factors are genetic and environmental. Chronic respiratory diseases are not fully reversible and partially preventable [2]. Risk factors include tobacco smoke, air pollution, occupational chemicals and dust, and frequent lower respiratory infections during childhood [17].

mit höherem Alter steigt Mortalität & Morbidität

Diseases of the respiratory tract and lungs represent an immense health problem worldwide: 5 lung diseases (COPD [chronic obstructive pulmonary disease], bronchial asthma, bronchial carcinoma, infections of the lower respiratory tract, and tuberculosis) are among the most common causes of severe health impairment and loss of life. COPD is the third leading cause of death [18].

COPD = dritthäufigste Todesursache

In Austria, 5% of adults suffer from asthma and allergy. 25% of the adult population show allergic sensitisation, and 10% have a clinically relevant allergy. For COPD, the prevalence in people over 40 years is estimated at 10%, increasing with age [18].

Ö: 5 % der Erwachsenen haben Asthma, 10 % der über 40-Jährigen COPD

1.2.5 Diabetes Type II

Diabetes mellitus refers to a group of metabolic diseases whose common finding is a chronically elevated blood glucose level. Diabetes is diagnosed by blood glucose measurements (fasting or after meals), sugar load tests or determination of the 'long-term sugar value' haemoglobin A1c (HbA1c) [19]. The classification of diabetes mellitus distinguishes 4 types:

- type I diabetes,
- type II diabetes,
- other specific forms of diabetes, and
- gestational diabetes [19].

Diabetes = Gruppe von Stoffwechselerkrankungen mit chronisch erhöhtem Blutzuckerspiegel, 4 verschiedene Typen

Thereof, type II diabetes is the most common form of diabetes. Type II diabetes is caused by a combination of insulin resistance (reduced insulin action) and insulin secretory dysfunction (relative insulin deficiency). The leading causes of type II diabetes are overweight and obesity, high blood pressure and elevated blood lipid levels (metabolic syndrome) and thus high-calorie, high-carbohydrate or high-fat diet and a lack of exercise. These factors are socioeconomically influenced [19]. In high-income countries, diabetes is the leading cause of, e.g. CVD, lower limb amputation, and blindness [20].

Diabetes Typ II am häufigsten; Risikofaktoren: hoher Blutdruck, erhöhte Blutfette, Übergewicht, mangelnde Bewegung

Worldwide, around 415 million people (approximately 9%) suffer from diabetes mellitus, the majority with type II diabetes, and 60 million (7%) of them in Europe. In Austria, the number of diabetics is estimated to be between 515,000 and 809,000 (7 to 11%) [19].

Ö: Anteil der Diabetiker*innen auf 7-11 % geschätzt

Diabetes in den letzten 20 Jahren verdoppelt

In the past 20 years, globally, diabetes has doubled and is an essential part of the NCD burden that health systems face [20]. The global costs of diabetes (including both costs from medical care as well as indirect costs from loss of productivity) are also large and estimated to increase substantially in the next years [21].

1.2.6 Depression

Hauptsymptome der Depression: depressive Stimmung, Interessenverlust, Antriebsmangel, Müdigkeit

Individuals with depressive disorders, impacting mental health, suffer from various symptoms with individual symptom constellations. The core symptoms include

- inner emotional emptiness or lowering mood,
- loss of pleasurable feelings and interest, and
- loss of energy and fatigue.

weitere Symptome z. B. Appetitverlust, Schlafstörungen, Gefühle von Schuld & Wertlosigkeit

Other symptoms, often associated with suicidal ideation, are

- loss of appetite,
- insomnia,
- cognitive impairment,
- somatic symptoms, and
- feelings of guilt, hopelessness and worthlessness [22].

unterschiedl. Formen je nach Krankheitsverlauf & Schweregrad der Symptome

Different types of unipolar depressive disorders can be defined depending on the disease's course and symptoms' severity (mild, moderate, severe). Distinctions are made between recurrent depressive disorder, depressive episodes, dysthymia (a chronic form with milder symptoms), and seasonal depression [22].

Ö 2019: Prävalenz von 7 % bei Erwachsenen

Prävalenz in Europa zwischen 3-10 % je nach Land

The overall prevalence of current depressive disorders in 27 European countries was 6%. Prevalence varied across countries, ranging from 3% in the Czech Republic to 10% in Iceland [23]. In 2019, 7% of Austrian adults suffered from depressive disorders at least once in a life. Concerning depressive symptoms' prevalence, Austria ranks in European mid-ranges. One-year population prevalence is 10% and higher in women (12%) than in men (8%) [22]. The latest evidence of mental health and the COVID-19 pandemic underlines that the global prevalence and burden of depressive and anxiety disorders will become even more important [24].

1.3 Healthy life years

healthy life years (HLY) messen Lebensjahre in Gesundheit

It is crucial to question if extra life-years through increased longevity can be spent in good or bad health. Indicators of health expectancies, such as HLY[7], focus on the quality of life spent in a healthy state, not the quantity measured by life expectancy [5].

[7] Another indicator also measuring the expected number of remaining life years spent in good health, is Healthy Life Expectancy (HLE), which is used by the Organisation for Economic Cooperation and Development (OECD) [25]. However, in this report we will only refer to the Eurostat indicator HLY.

The indicator *Healthy life years* (HLY), used by Eurostat, is defined as the number of years a person is expected to continue living in healthy conditions, i.e., without any disability and limitation in functioning. This statistical indicator is a composite indicator combining age-specific mortality data with health status data. The health status is based on a self-perceived question that aims to measure the extent of any limitations in activities, because of a health problem, for at least 6 months. The indicator is compiled separately for women and men, at birth and at ages 50 and 65 [3]. For Austrian 30-year-olds, life expectancy increased slightly more for males than for females between 2005 and 2016. For this age group, in 2016, life expectancy was 55 years for women and 50 years for men. Also, life expectancy in (very) good health has increased for 30-year-olds (2014: men: 37 years; women: 38 years). The difference in life expectancy in (very) good health by gender is small – compared to life expectancy overall; this means that women spend more years in moderate to very poor health than men [14].

HLY = Anzahl der Jahre, die eine Person voraussichtlich in gesundem Zustand weiterleben wird, d. h. ohne Behinderung & Funktionseinschränkung

In Austria, HLY at birth are in the lower ranks compared to other European countries. In numbers, this means that the average of HLY at birth in other European countries is 64 years for men and 65 years for women. These numbers represent 82 per cent and 78% of total life expectancy for men and women. In Austria, HLY at birth are only 57 years and 58 years for men and women (see Figure 1-2) [5].

HLY im EU-Durchschnitt: Männer 64 J., Frauen 65 J.; Österreich: Männer 57 J., Frauen 58 J.

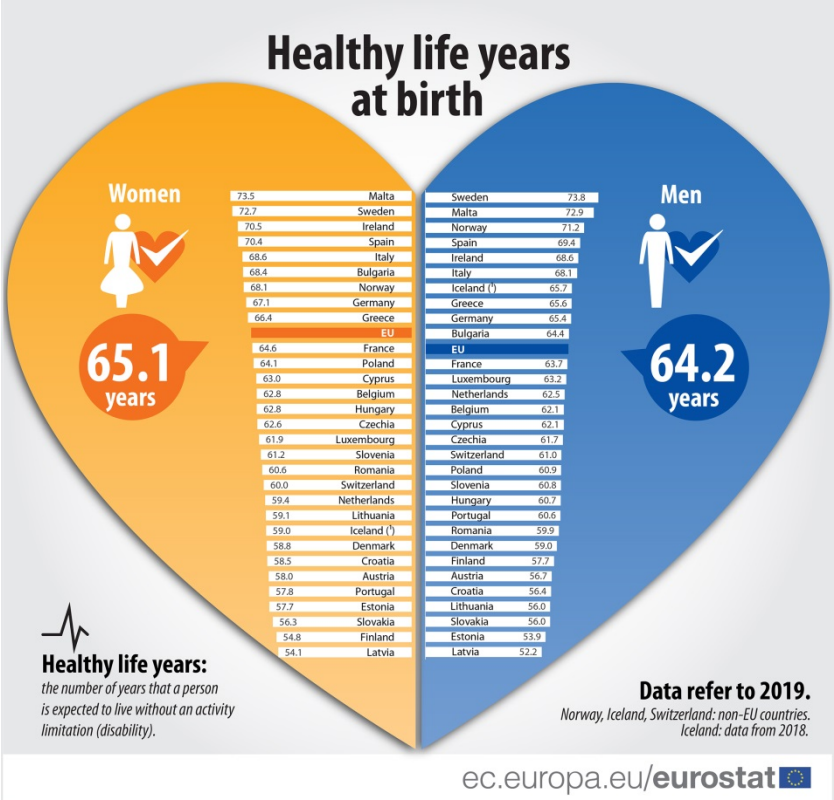

Figure 1-2: Healthy life years at birth (Quelle: Eurostat, 2021 [5])

1.4 NCD strategies

viele Länder haben nationale Strategien für NCD Prävention & Management entwickelt

To address the prevention and management of NCDs, many countries have developed national strategies and policies on a macro-level. These documents define the aims and objectives of the strategies related to NCD prevention and management, identify target populations and relevant stakeholders, set framework conditions and specify actions and activities.

Bsp. Australien: Policies auf unterschiedl. Levels (national & einzelne Bundesstaaten & regional)

Different policies at different levels can be observed. One example of many existing state-based and national actions and strategies targeting chronic conditions is the Australian National Strategic Framework for Chronic Conditions [26]. Figure 1-3 presents the relationship of this Framework and other strategies, policies and programmes in Australia [26].

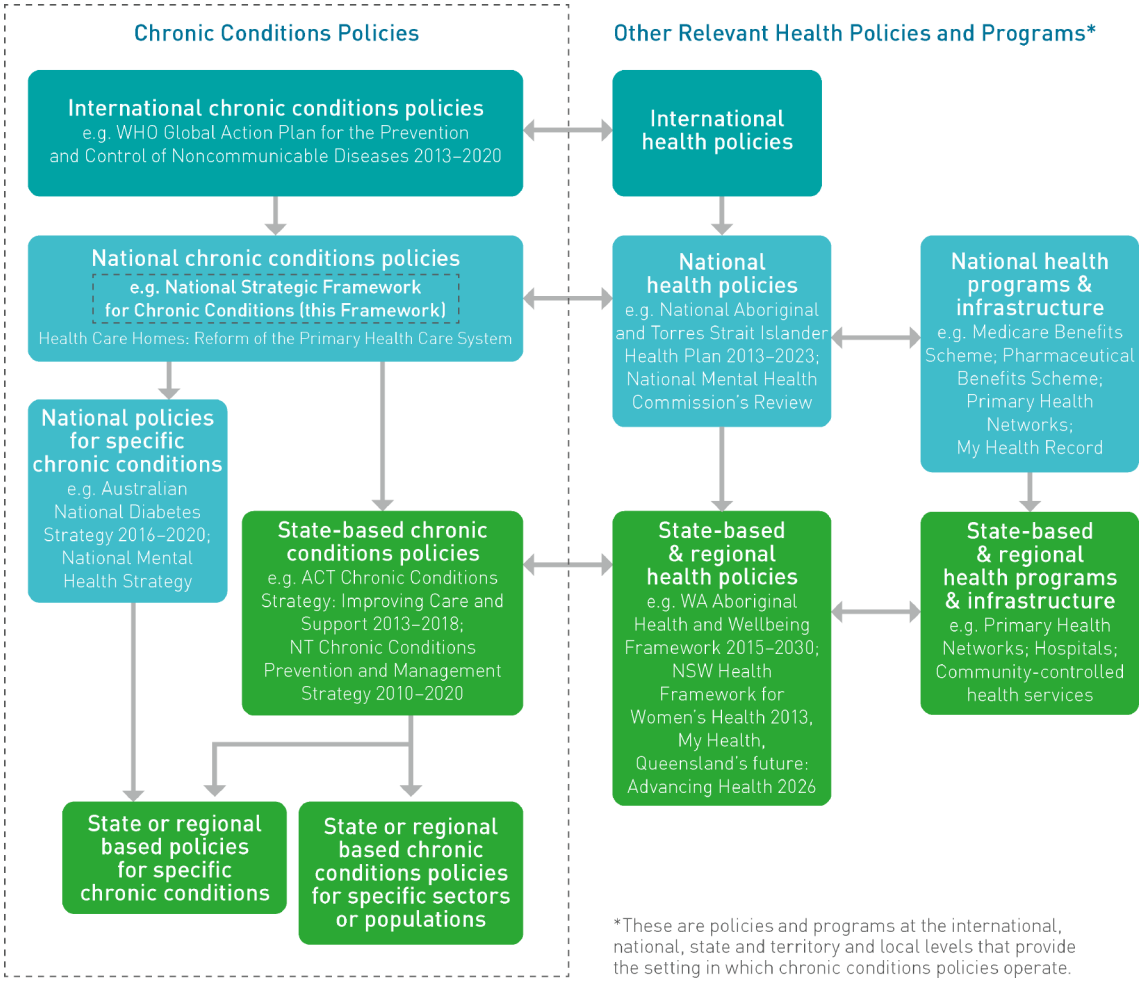

Figure 1-3: Relationship between the Framework and other chronic and health conditions policies and programmes (Quelle: Australian Health Ministers' Advisory Council, 2017 [26])

Globally and the Member States in the European Region develop multisectoral, comprehensive NCD control and prevention policies. However, European Member States lack guidance on strengthening national policies, strategies and plans to tackle NCDs. As stated in 2015, in 26 of 53 WHO European Member States, integrated NCD policies are in place. It must be noted that developing such policies is highly complex, and no 'one-size-fits-all' approach exists [10].

Entwicklung von NCD-Strategien weltweit & in versch. europäischen Staaten

1.4.1 Global and regional NCD strategies

The WHO published 2 important documents concerning NCD prevention and management:

- the *WHO Global Action Plan for the prevention and control of NCDs,* and
- the *Action Plan for the Prevention and Control of NCDs in the WHO European Region 2016-2025*.

WHO publizierte 2 Dokumente: *Global Action Plan* & *Action Plan for the WHO European Region*

The vision of the *WHO Global Action Plan for the prevention and control of NCDs* [7] is to develop a world free of the avoidable burden of NCDs. It aims to reduce the avoidable and preventable burden of mortality, morbidity, and disability due to NCDs through multisectoral global, national and regional cooperations. Thus, the population can reach the highest attainable standards of productivity and health at every age, and NCDs are no longer barriers to socio-economic development or well-being. The overarching principles are:

***WHO Global Action Plan* mit der Vision einer Welt ohne vermeidbare Belastungen durch NCDs**

Ziel: Reduktion der vermeidbaren Belastung durch Sterblichkeit, Krankheit & Behinderung aufgrund von NCDs durch sektorübergreifende globale, nationale & regionale Kooperation

- empowerment of communities and people,
- life-course approach,
- evidence-based strategies,
- management of potential perceived or real conflicts of interest,
- universal health coverage,
- human rights approach,
- national action, international cooperation and solidarity,
- equity-based approach, and
- multisectoral action [7].

The action plan sets 6 objectives, which are described in further detail:

6 Ziele, z. B. verstärkte internationale Zusammenarbeit, Schaffung eines gesundheitsfördernden Umfelds zur Verringerung der Risikofaktoren & der zugrunde liegenden sozialen Determinanten, …

1. Strengthened international advocacy and cooperation to raise the priority accorded to the control and prevention of NCDs in global, national and regional agendas and international development goals
2. Accelerate country response to control and prevent NCDs by strengthening national capacity, governance, leadership, partnerships, and multisectoral action
3. Creation of health-promoting environments to reduce risk factors for NCDs and underlying social determinants
4. Strengthened and oriented health systems to address the control and prevention of NCDs and underlying social determinants through people-centred primary health care and universal health coverage
5. Supporting and promoting national capacity for high-quality research and development for the control and prevention of NCDs
6. Monitor trends and determinants of NCDs and evaluating progress in their control and prevention [7].

Unterstützung der Implementation des *Global Action Plans* durch Monitoring Framework mit 9 globalen Zielen & 25 Indikatoren

The implementation of the WHO Global Action Plan for the prevention and control of NCDs is tracked by the global monitoring framework. This framework includes 9 voluntary global targets and 25 indicators providing overall direction. The action plan can be seen as a road map for reaching these goals [7]. The following Figure 1-4 presents the voluntary global targets. The global action plan aims to achieve a relative reduction in premature mortality from NCDs of 25% by 2025 [7]. However, a report of the UN High-level Meeting on the Prevention and Control of NCDs in 2018 stated that many countries are lagging behind these aims, although lots of proven interventions for NCDs exist. Many challenges to implementation could be identified, such as lack of plans and policies for NCDs, insufficient financing, difficulty in priority-setting, the impact of commercial, economic and market factors, and lack of accountability and political will, capacity, commitment and action [27].

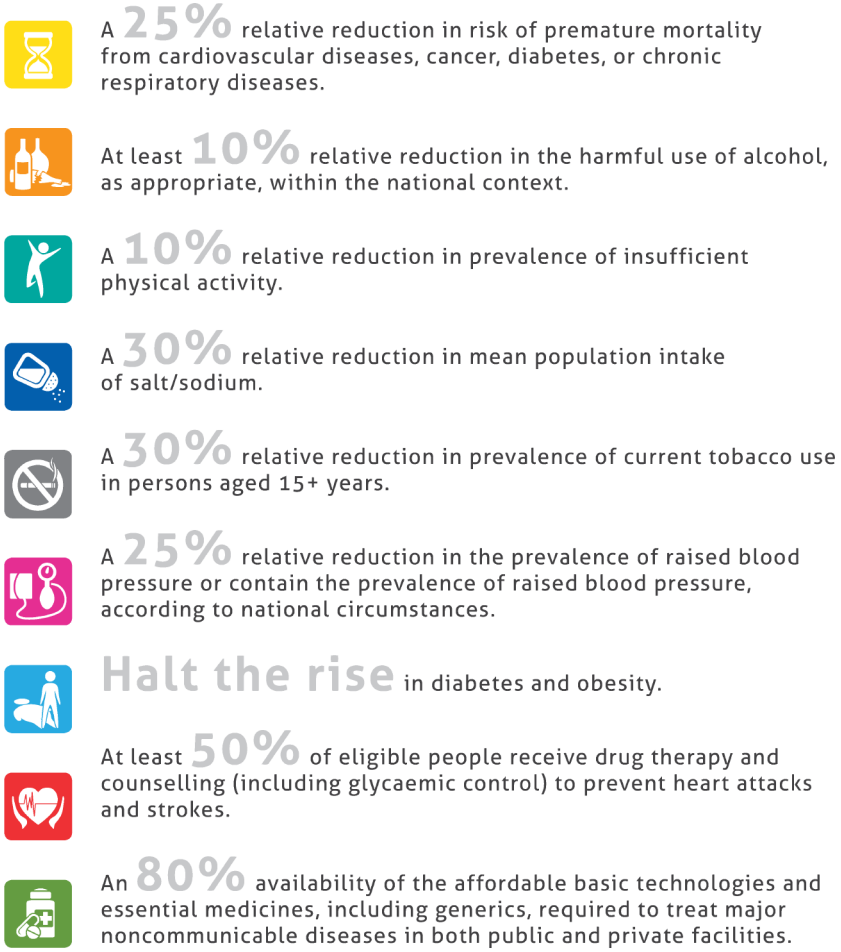

Figure 1-4: Voluntary global targets of the WHO Global Action Plan (Quelle: World Health Organization, 2013 [7])

The *Action Plan for the Prevention and Control of NCDs in the WHO European Region 2016-2025* [8] focuses on interventions and priority action areas for 10 years until 2025. It aims to achieve global and regional targets to reduce disease burden, premature mortality, make healthy life expectancy more equitable and improve quality of life. The vision of the action plan is to create a health-promoting Europe, free of premature death, preventable NCDs, and avoidable disability. There are 2 main objectives:

- taking integrated action on risk factors and underlying determinants across sectors, and
- strengthening health systems for control of NCDs and improved prevention [8].

***Action Plan for the WHO European Region* formuliert 2 Ziele: integrierte Maßnahmen gegen Risikofaktoren & zugrundeliegende Determinanten in allen Sektoren; & Stärkung der Gesundheitssysteme zur NCD-Kontrolle & -Prävention**

Policy and action are integrated into a comprehensive approach, tackling NCDs and reducing inequalities in health. Thus, it is essential to promote population-level disease prevention programmes and health promotion, target individuals and groups at high risk, and maximise population coverage with effective care and treatment. The described priority action areas include governance, prevention and health promotion, health systems, and surveillance, monitoring, evaluation, and research. Priority interventions on a population level, such as promoting healthy consumption, mobility and active living, and an individual level, e.g., cardio-metabolic risk management, early detection, and treatment of NCDs, are crucial to achieving the goals [8].

***Action Plan* priorisiert Handlungsbereiche & Interventionen auf Bevölkerungs- & individueller Ebene**

1.4.2 Overview of integrated prevention and management of NCDs among OECD countries

A systematic policy analysis by Briggs et al. among the Member States of the OECD countries evaluated existing health policies for integrated prevention and management of NCDs. The analysis described the policies' strategies and aims and how to achieve those [28].

systematische Analyse der NCD Policies der OECD Mitgliedsstaaten

44 policies from 30 OECD Member States were included in the analysis. The policies of most countries covered cancer (83%), diabetes/endocrine disorders (77%), CVDs (77%), mental health conditions (63%), respiratory conditions (63%) and musculoskeletal health and pain (50%). Almost all policies (96%) outlined general strategies [28]. The authors categorised the strategies into 3 key themes, which were supported by a number of sub-themes:

44 Policies von 30 OECD-Staaten mit 3 Hauptthemen: bessere Gesundheit der Bevölkerung, bessere Leistungserbringung & systemstärkende Ansätze

- General principles for people-centred NCD prevention and management:
  - Prevention and management across the lifecourse
  - Promoting healthy behaviours, safe environments and reducing risk
  - Effective partnerships to support people-centred care
  - Research to support people-centred NCD care
- Enhancing service delivery:
  - Improving care quality, safety and consumer satisfaction
  - Early intervention
  - Programmes to target condition-specific NCDs
  - Improving access to NCD care
  - Care co-ordination and integration
  - Healthy ageing

- Whole-of-system strengthening approaches:
  - Capacity for emergency and disaster responses
  - Population health monitoring and performance
  - National standards for NCD care and reporting
  - Financing to support NCD care
  - Policy and regulation [29]

Strategien mit WHO Monitoring Framework abgestimmt

NCD health policies for integrated management and prevention among OECD countries are closely aligned to mortality. There is a close link between the NCD policy, monitoring frameworks and NCD global action plans. This analytical review of current health policies provides trends in aims and strategies for NCD management. A broad range of internal validity scores was identified, and strategies and aims are aligned with many indicators and targets for the WHO NCD monitoring framework [28].

1.4.3 NCD strategies in Austria

2 Strategien aus Ö

This chapter introduces 2 Austrian strategies: the *Austrian Health Targets* and the *Austrian Diabetes Strategy*.

10 österreichische Gesundheitsziele, die 2012 formuliert & beschlossen wurden

The 10 *Austrian Health Targets* [30], which were formulated and officially approved in 2012, outline what a healthier Austria should look like in the future and which course needs to be set for this. They aim to improve the health of all people living in Austria, regardless of their educational status, income situation or living conditions. It is about improving health but also relieving the burden on the health care system [30].

Ziel: gesunde Lebensjahre sollen bis 2032 um 2 Jahre erhöht werden

The 10 health targets are intended to make a concrete contribution to ensuring that the number of years spent in good health will increase by an average of 2 years over the next 20 years. Life expectancy in Austria is now one of the highest in OECD countries. In terms of HLY, however, Austria is only in the middle of the field in an international comparison [30]. A focus on morbidity reduction is therefore essential.

"Health in All Policies" Ansatz: Fokus auf z. B. Bildung, Lebens- & Arbeitsumstände, Umwelt

The health targets focus on areas where positive action can be taken to maintain and develop the population's health. Therefore, the health targets focus on those factors influencing health, such as education, the working situation, social security, or environmental influences. This 'health in all policies' approach contributes to the sustainable promotion of health and quality of life and can counteract the rising healthcare sector costs [30].

österr. Diabetes-Strategie aus 2017 mit 6 Wirkungszielen & 21 Handlungsempfehlungen

Another notable strategy is the *Austrian Diabetes Strategy* [31]. In 2017, the strategy was initiated by the Austrian Federal Ministry of Health and Women (BMGF). This strategic expert paper comprises 6 impact targets and, derived from these, 20 recommendations for action, which are now to be implemented step by step [19].

2 Hauptziele

The 2 main goals are

- reducing the probability of people living in Austria developing diabetes, and
- enabling these people suffering from diabetes to maintain the highest possible quality of life as long as possible [31].

1.5 Approaches to prevent and manage NCDs: definition of terms

1.5.1 Prevention of NCDs

3 Arten von Prävention:

In science and practice, 3 levels of prevention are distinguished, depending on people's state of health: primary, secondary and tertiary prevention.

Primary prevention

Primärprävention: Verhindern von Krankheiten

Primary prevention aims to prevent diseases. It focuses on creating health-promoting living environments, improving health literacy and other protective factors as well as reducing risk factors [32].

Secondary prevention

Sekundärprävention: Früherkennung

Secondary prevention focuses on early detection and early intervention in the case of concrete risks and/or first signs of a disease. It concentrates on specific risk groups [32].

Tertiary prevention

Tertiärprävention: Vermeiden von z. B. Chronifizierung

Tertiary prevention aims to prevent chronicity and complications as well as secondary diseases in people who are already ill and to improve their quality of life [32].

1.5.2 Disease management and chronic care

unterschiedl. Zugänge zu Versorgung von chronischen Krankheiten

The European Observatory identified various approaches to chronic care adopted in 12 European countries (e.g., Austria, Germany, and the Netherlands). Many different models and approaches of chronic disease management or chronic care can be found, having the same objective. This objective is to improve care for people with chronic health problems [9]. The following gives an overview of selected models' definitions.

Care pathway

Versorgungspfad

A care pathway (or integrated care pathway) is defined as a task-oriented care plan specifying essential patient care steps. Patients' care includes specific clinical problems and describes patients' expected clinical course [9].

Case management

Case Management

Case management is intensive monitoring of a patient with complex needs. A case manager is named, which is usually a (specialist) nurse, and care is tailored to the individual needs of a patient who is medically, financially, and socially at high risk [9].

Multidisciplinary team(s)/care

multidisziplinäre Teams/Versorgung

Multidisciplinary teams or care is an extension of case management. Usually, it involves developing treatment plans in terms of medical, financial, and psychosocial patients' needs. The objective is to move patients from inpatient acute care to long-term outpatient management. For this, a broader range of social and medical support personnel is needed, such as physicians, dietitians, social workers, nurses and pharmacists [9].

Chronic care model (CCM)

Chronic Care Modell

The chronic care model (CCM) is a conceptual framework presenting a structure for organising health care. It comprises 4 key components:

- self-management support,
- delivery system design,
- decision support, and
- clinical information systems [9].

Model of care

Model of Care

Models of care are defined as evidence-informed frameworks or policies that outline the best way of delivering condition-specific care, taking into account the realities of the local environment [33].

Coordinated care/care management

koordinierte Versorgung

Coordinated care or care management is defined as the development and implementation of therapeutic plans. It integrates the efforts of social and medical service providers and often involves designated individuals managing the provider collaboration [9].

Disease management programme

Disease Management Programm

Disease management programmes (DMPs) have emerged as strategies enhancing the quality of care for patients with chronic diseases and controlling healthcare costs [34]. They vary substantially, but common features include:

- an integrated approach to care and coordination of care among providers (including hospitals, laboratories, pharmacies, and physicians),
- patient education, and
- monitoring and collecting patient outcomes data for early detection of potential complications [9].

Usually, DMPs do not involve general coordination of care or preventive services, e.g., flu vaccination [9].

Integrated care

integrierte Versorgung

Integrated care means types of partnerships, collaborations, or networks between social and health care services providers working together to meet the multidimensional needs. These needs can be categorised by persons with similar problems and the needs of an individual client or patient [9].

WHO Definition von integrierter Versorgung

According to the WHO, integrated care is defined as '*health services that are managed and delivered so that people receive a continuum of health promotion, disease prevention, diagnosis, treatment, disease-management, rehabilitation and palliative care services, coordinated across the different levels and sites of care within and beyond the health sector, and according to their needs throughout the life course*' [35].

WHO: "Integrated care for older people" (ICOPE) Modell

In the context of ageing populations, the WHO has developed the integrated care for older people (ICOPE) approach to better address the needs of older people. It integrates health and social care and is supported by a long-term care system. ICOPE is a community-based approach and aims at creating a person-centred and coordinated model of care. The WHO ICOPE approach recommends community-level and home-based interventions, person-centred assessments and integrated care plans, shared decision-making and goal set-

ting, support for self-management, multidisciplinary care teams, unified information or data sharing systems, community engagement and caregiver support, as well as formal links with social care and support services [36].

Beispiel für Modell für integrierte Versorgung aus Irland

Another illustrative example can be described referring to the *National Framework for the Integrated Prevention and Management of Chronic Disease in Ireland 2020-2025* [37]. Here, the integrated care model, the framework's heart, demonstrates that the Irish health services can provide 'end-to-end' care. Figure 1-5 presents the 5 levels of care and examples of services needed to deliver integrated end-to-end care for patients with chronic disease. Integrated care focuses on providing care close to home and on moving patients' health care outside of the hospital setting to keep them well [37].

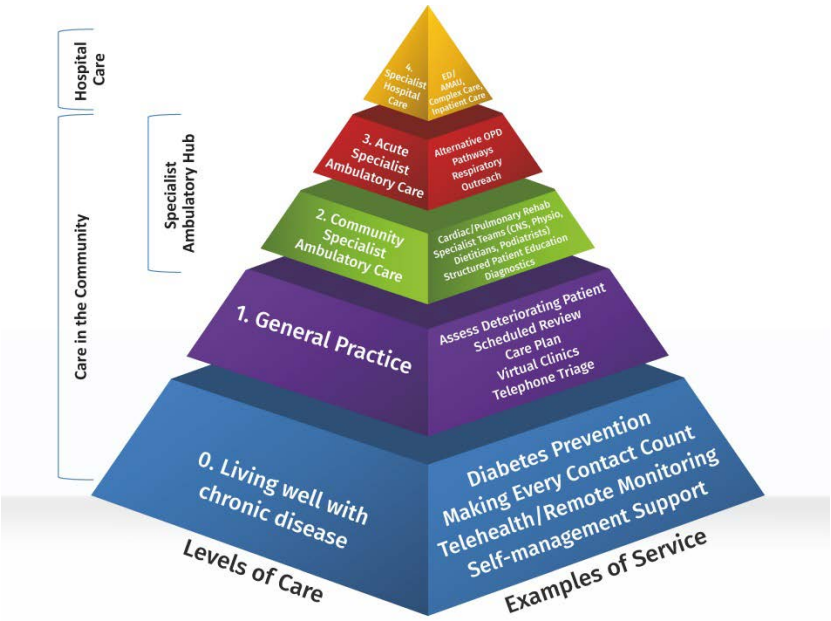

Figure 1-5: Model of care for the integrated prevention and management of chronic disease (Quelle: Health Service Executive Organisation, 2020 [37])

1.5.3 Macro, meso, micro level

Macro-, meso- and micro-levels provide a framework for health care systems. Each of these levels interacts with and influences the other two:

- *the macro level:* refers to health systems and their governance through health policy, and considers, e.g., the functionality and scope of health systems and organisations, health policy, resource allocation, as well as socioeconomic factors

  Makro-Level: Gesundheitssystem & Policy

- *the meso level:* refers to the health service, organisational and community level and considers, e.g., health services, clinical workforce, health professional education, service delivery systems, funding models, and clinical infrastructure

  Meso-Level: Gesundheitseinrichtungen

- *the micro level:* refers to the provider and patient level, and considers, e.g., the participation by the person in their care, the coherence in the primary process of care delivery to individual patients [33, 38, 39].

  Mikro-Level: Patient*in & Gesundheitspersonal

1.6 Project aims and research questions

Ziele: Überblick über nationale Strategien in ausgew. Ländern & Zusammenfassung & Analyse von Evaluationsergebnissen einzelner Programme

The project aims

- to provide an overview of national strategies for preventing and managing selected NCDs (CVDs, chronic respiratory diseases, diabetes type II, depression) in selected (Western high-income) countries and their implementation, and
- to summarise evaluation results for specific programmes/interventions of the identified national strategies concerning the mentioned NCDs.

3 Forschungsfragen zu nationalen Strategien (Makro-Level), deren Implementierung & Evaluation spezifischer Programme (Mikro-/Meso-Level)

The following research questions (RQ) will be answered:

- RQ1: Which *national strategies/policies* (at a macro level) are in place in Western high-income countries concerning the aforementioned NCDs and their risk factors?
- RQ2: What information is available on the *implementation* and implementation process? Which specific programmes/interventions (at a micro/meso level, e.g., disease management programmes) are described in the national strategies?
- RQ3: Which *evaluation results* of these programmes/interventions (e.g., implementation, effectiveness) can be summarised?

2 Methods

The following methods were applied to answer **research questions 1 and 2:**

2.1 Literature search of national strategies

In April and May 2021, we conducted an extensive structured hand search for national strategies and policies addressing the 4 NCDs mentioned above by using the following resources and databases:

umfassende strukturierte Handsuche auf Webseiten & in Datenbanken zu nationalen Strategien & Policies

- websites of national ministries of health,
- websites of national public health institutions,
- Google (Scholar),
- PubMed,
- WHO website,
- OECD website.

Additionally, we used a recent article by Briggs et al. [28] that analysed integrated prevention and management policies for NCDs among OECD countries as a starting point for our search.

OECD-Policy-Analyse als Ausgangsbasis für Recherche

We used keywords such as non-communicable diseases, chronic diseases, CVD, chronic respiratory/pulmonary disease, diabetes, depression/mental health and national strategy or policy.

Suchbegriffe

If necessary, we contacted experts from the respective countries for further information and clarification.

ggfs. Kontaktierung von Expert*innen

2.2 Selection of countries and national strategies

The inclusion criteria for relevant national strategies are listed in Table 2-1. The strategies or policies had to address prevention and/or management measures for one (or more) of the 4 NCDs and had to be available in English or German. All Western high-income countries from Europe, North America, Australia and New Zealand were considered potentially relevant.

Fokus auf englisch- & deutschsprachige Strategien aus Europa, Nordamerika, Australien/Neuseeland

The Austrian Ministry of Social Affairs, Health, Care and Consumer Protection (hereafter referred to as Ministry of Health, MoH) pre-defined that our report should focus on CVDs, chronic respiratory diseases and diabetes type II[8]. Depression as another important NCD was added by the AIHTA.

sowie auf kardio-vaskuläre & Atemwegserkrankungen, Diabetes, Depression

[8] Cancer as another common cause of death was not included, because there are separate Austrian initiatives focusing on cancer, including a Cancer Strategy ('Nationales Krebsrahmenprogramm') [40].

Table 2-1: Inclusion criteria for relevant national strategies (RQ1+2)

Description	Project scope
Type of publication	National strategies and policies, which address one of the 4 NCDs (CVDs, chronic pulmonary/respiratory diseases, diabetes type II, depression)
Content	■ main characteristics and/or ■ information on the (planned) implementation process
Settings	Western high-income countries (Europe, North America, Australia, New Zealand)
Languages	English, German

8 Länder wurden ausgewählt

We selected a range of countries that provided the most detailed national strategies for one (or more) of the 4 NCDs in English or German. Starting with the article by Briggs et al. [28], giving a good overview of integrated NCD prevention and management strategies among OECD countries, we aimed to include countries with different public health traditions and health systems, focusing on Europe also involving non-European countries. We included a total of 18 strategies from the following countries:

- Germany
- Switzerland
- Netherlands
- Finland
- UK
- Ireland
- Australia
- Canada

2.3 Data extraction and analysis of national strategies

Datenextraktion mit Fokus auf Hauptcharakteristika der Strategien & Implementierungsprozess

We prepared a data extraction table for each of the selected countries, deciding inductively which information to extract. The data extraction tables include:

- main characteristics: e.g., title of the strategy, year of publication, indications, focus and aims (RQ1);
- information on the (planned) implementation process: e.g., time frame, involved stakeholders, organisational framework conditions, evaluation/ monitoring, planned activities to reach the strategy's aims (RQ2).

The data extraction tables for each country can be found in the Appendix (Table A-1-A8).

Zusammenfassung & Analyse der Daten

We summarised and analysed the extracted information of the included national strategies in chapter 3.1. The information was summarised across all countries and their respective strategies for each extracted category. Main themes were elaborated for the visions and goals of the strategies, as well as the activities and measures. These were used to cluster the extracted information of the strategies.

For answering **research question 3**, we applied the following methods:

2.4 Selection of programmes/interventions (short list)

Identifizierung von spezifischen Interventionen/ Programmen aus den Strategien oder aus anderen Quellen, z. B. Präventions- & Disease Management Programme

The inclusion criteria for relevant programmes and interventions for subsequent in-depth analysis are listed in Table 2-2. In further research, first, we developed a short list giving an overview of programmes and interventions mentioned in the national strategies (see Appendix Table A-9). For this purpose, we searched for specific programmes or interventions, such as DMPs, case management or prevention programmes, for adults suffering from one of the 4 NCDs or having risk factors of these diseases. We focused on interventions that were offered within the health care sector. We identified specific interventions and programmes from the national strategies. However, several strategies did not provide information on any specific interventions. In this case, we used other sources such as websites of ministries or public health institutions to identify specific programmes. If applicable, we contacted relevant experts or study authors for further information on the programmes and interventions.

Table 2-2: Inclusion criteria for relevant evaluation reports and studies (RQ3)

Description	Project scope
Intervention	Specific programmes/interventions (e.g., Disease management programme [DMP], Case management, Prevention programme) for adults suffering from one of the 4 NCDs (CVDs, chronic pulmonary/respiratory diseases, diabetes type II, depression) or adults with risk factors of these diseases ■ not: measures of control and design outside the health care system (e.g., taxation of sugary drinks)
Outcomes	■ effectiveness outcomes (e.g., mortality, morbidity, hospitalisation, quality of life, health care utilisation, patient satisfaction, symptoms improvement) ■ implementation outcomes (e.g., implementation status, achievement of programme targets, acceptance) ■ study characteristics and intervention outcomes (e.g., target groups, involved professional groups, setting, programme content, duration/scope of intervention, aims)
Study design	Evaluation studies, reports and published studies
Settings	Western high-income countries (Europe, North America, Australia, New Zealand)
Languages	English, German

Auswahlkriterien für Programme: z. B. Interventionen im Gesundheitssystem, Studiendesign, Anzahl der Patient*innen, Follow-up

For the preparation of the short list of programmes, we aimed to:

- cover all countries,
- cover all indications,
- include prevention AND management programmes, and
- include mainly interventions that fall in the responsibility of the health care system in Austria.

Auswahl von 11 Programmen gemeinsam mit BMSGPK

We prepared a short list of potentially relevant interventions and programmes, including basic information such as target group, type of intervention and the availability of evaluation results. In a meeting in July 2021, we presented the short list to the Austrian MoH. We together selected 11 programmes (2-3 per indication plus 2 programmes for various diseases) for further analysis. Priority was given to programmes with potential transferability and feasibility for the Austrian health care system. Additionally, in case of more available alternatives, we selected those programmes which had the highest

- quality of study design, quality of report/study, and
- number of patients and follow-up.

2.5 Systematic literature search for the selected programmes/interventions

systematische Literatursuche zu den 11 Programmen

A systematic literature search was applied to find all published articles for each of the 11 programmes. It was conducted between the 20th and the 23rd of July 2021 in the following databases:

- Medline via Ovid
- Embase.com
- The Cochrane Library
- CRD (DARE, NHS-EED, HTA)
- HTA-INAHTA
- PsycINFO

Suchstrategie im Anhang

The systematic search was limited to articles published in English or German. Conference abstracts were excluded from the search results in Embase and The Cochrane Library. No further restrictions were applied regarding study designs. The Medline search strategy is given as an example in the Appendix (Example of Literature search strategies). The search strategies for the other databases are available from AIHTA on request.

2.6 Selection of studies of the 11 selected programmes/interventions

832 Referenzen nach Deduplizierung

42 Volltexte bestellt

21 Artikel eingeschlossen

The update search yielded 1,487, and after deduplicating, 832 references remained. The references were screened by 2 independent researchers (LG, IR) using Rayyan QCRI. After screening the abstracts, 42 studies were read in full to check for suitability, following the Preferred Reporting Items for Systematic and Meta-Analyses (PRISMA) [41]. 21 full-text articles were excluded, resulting in 21 included studies. Disagreements were solved through discussion, consensus, or involvement of a third researcher (IZ). The selection process is displayed in Figure 2-1.

Studienauswahl nach vorab definierten Kriterien z. B. hohe Qualität, Aktualität

We applied the same inclusion criteria as above (see Table 2-2). We conducted a systematic search in order to find all articles for each programme. However, we did not aim at including all published studies for each of the 11 programmes as in a systematic review. Instead, we selected 1 to 3 articles for each programme to give an overview of the evaluation results. Studies were included in terms of predefined inclusion criteria, i.e., study designs with high quality of evidence (e.g. comparative design, high number of study participants, long follow-up). Additionally, we mainly selected the most recent publications.

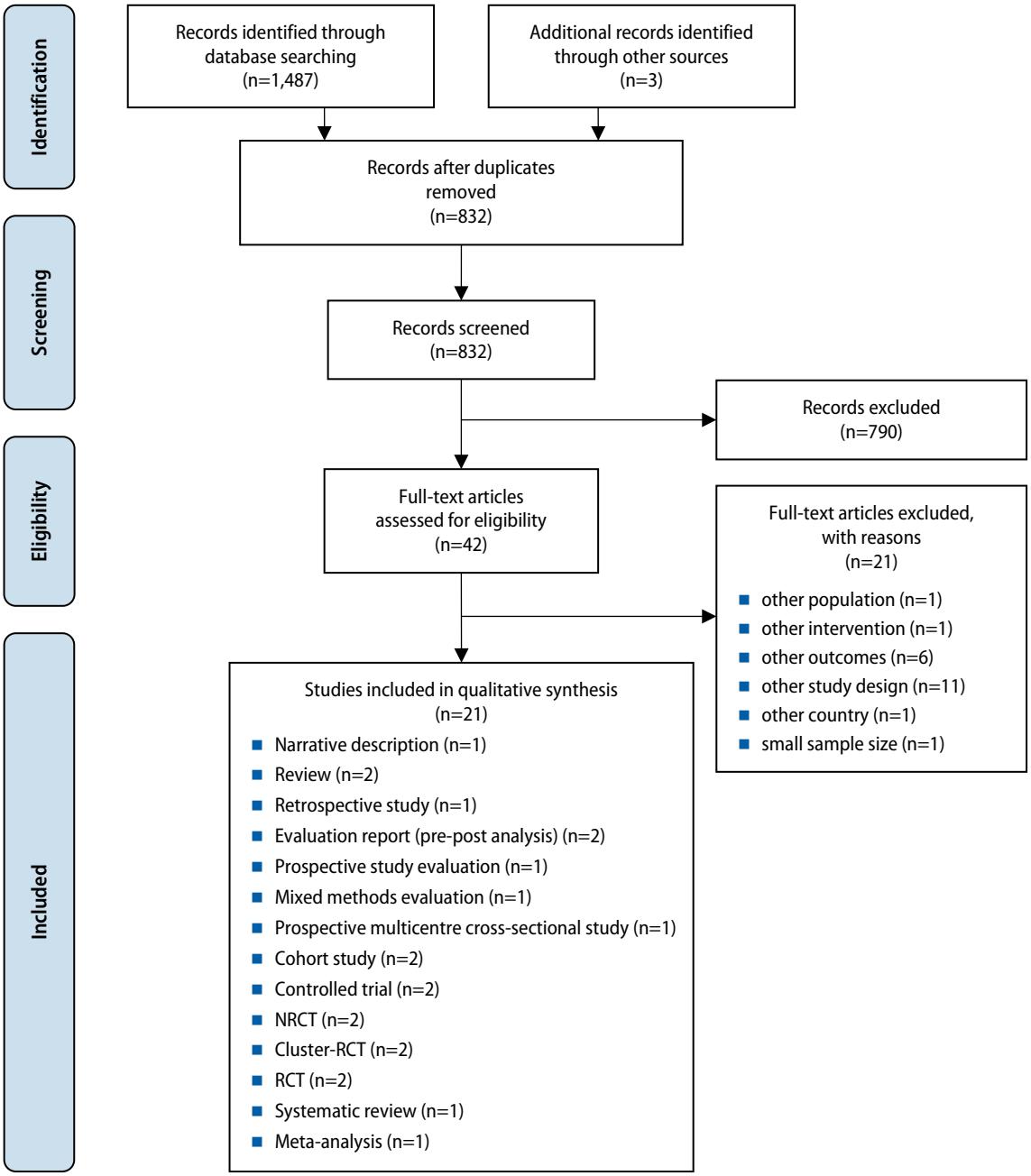

Figure 2-1: Flow chart of study selection (PRISMA Flow Diagram)

2.7 Data extraction and analysis of specific programmes/interventions

Datenextraktion mit Fokus auf Studien- & Interventions-charakteristika sowie Wirksamkeits- & Implementierungs-Endpunkte

Data of the programmes were extracted in terms of

- study characteristics,
- intervention characteristics,
- effectiveness outcomes[9], and
- implementation outcomes.

Data retrieved from the finally selected trials (n=21) were systematically extracted into data extraction tables (see Appendix Table A-10 bis A-15). Data extraction was executed by one researcher and controlled for completeness and correctness of extracted data by a second researcher (LG, IR). Disagreements were solved through discussion, consensus, or involvement of a third researcher (IZ). We did not assess risk of bias of the included studies.

Zusammenfassung der Daten nach NCDs

The extracted information was summarised for each condition (CVDs, chronic respiratory diseases, diabetes, depression, and various diseases, i.e. programmes with a focus on NCD prevention/management in general and not on one specific disease).

2.8 Flow diagram

Flussdiagramm

We created a flow diagram (see Figure 2-2 on the next page) to visualise the methodological path of the connection between literature search, results and analysis.

[9] 'Effectiveness outcomes' refers to evaluation outcomes measuring the effect of the programme/the health impact, in contrast to evaluation outcomes regarding the implementation of the programme. However, we also included study designs of lower quality such as uncontrolled studies, for which 'effectiveness outcomes' may not be the most suitable term.

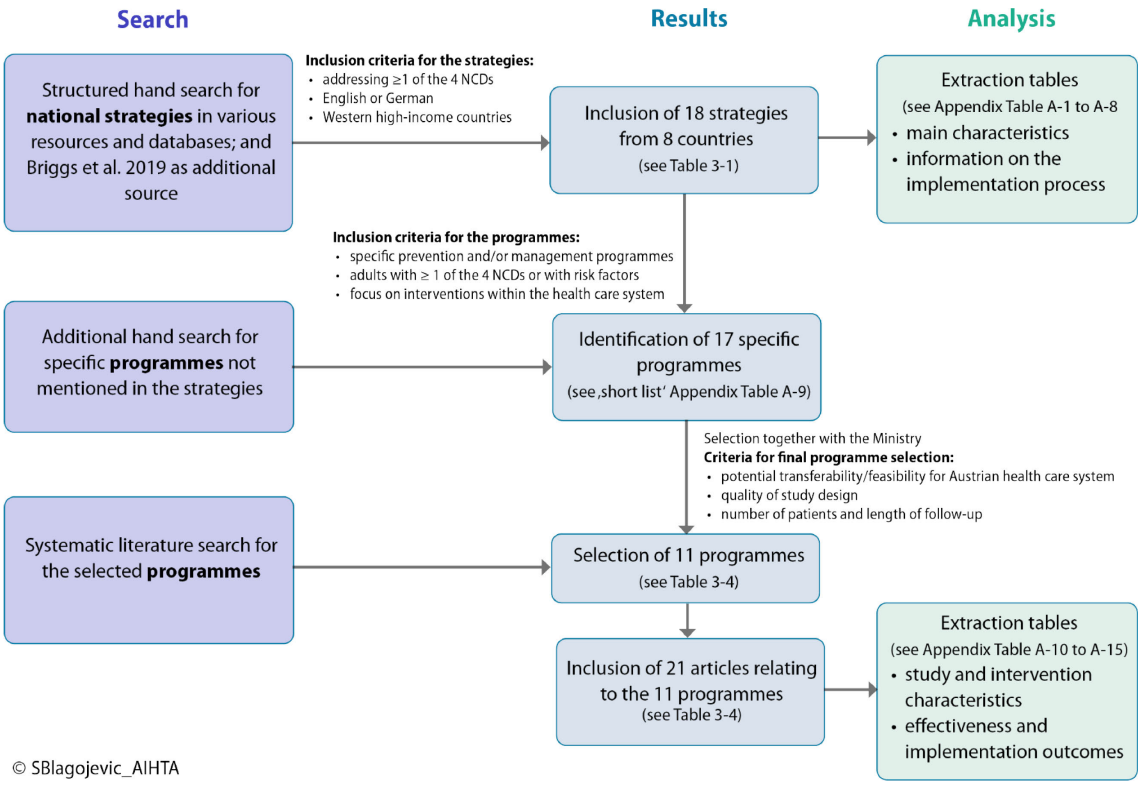

Figure 2-2: Flow diagram displaying conntection between literature search, results and analysis

2.9 Quality assurance

Begutachtung durch 1 interne & 2 externe Reviewer*innen

This report was reviewed by one internal and 2 external reviewers (see 'Project Support' on page 4). The external reviewers were primarily asked to assess the following quality criteria:

- *Technical correctness:* Is the report technically correct (evidence and information used)?
- Does the report *consider the latest findings* in the research area?
- *Adequacy and transparency of method:* Is the method chosen adequate for addressing the research question, and are the methods applied in a transparent manner?
- *Logical structure and consistency of the report:* Is the structure of the report consistent and comprehensible?
- *Formal features:* Does the report fulfil formal criteria of scientific writing (e.g. correct citations)?

The AIHTA considers the external peer review by scientific experts from different disciplines as a method of quality assurance of the scientific work. The responsibility for the report content lies with the AIHTA.

3 Results

The results of this report on national NCD strategies and the effectiveness of specific interventions/programmes dealing with these NCDs are presented in 2 parts. Part I gives an overview of the included national NCD strategies, describes main characteristics and implementation aspects, and provides an overview of the specific interventions and programmes mentioned in the national strategies.

Ergebnisse in 2 Teilen

Teil I: Mapping von nationalen NCD-Strategien

A shortlist of specific programmes to tackle NCD issues emerged from these strategies and further hand searches. Part II evaluates these specific programmes and interventions. First, an overview (shortlist) of the selected programmes is given, followed by a description and analysis of the 11 programmes chosen for evaluation, including CVD, chronic respiratory diseases, diabetes type II, mental health and various diseases.

Teil II: Analyse der 11 ausgewählten Programme

3.1 Part I: Mapping of national strategies on NCDs

In this chapter, we aim to answer research questions 1 and 2:

- RQ1: Which national strategies/policies (at a macro level) are in place in Western high-income countries in relation to the aforementioned NCDs and their risk factors?
- RQ2: What information is available on the implementation and implementation process? Which specific programmes/interventions/measures (at a micro level, e.g., disease management programmes) are described in the national strategies?

FF1: nationale NCD-Strategien in westlichen Ländern (Makro-Ebene)

FF2: Informationen zu Implementierung & spezif. Programmen (Mikro-Ebene)

3.1.1 Included national strategies

For the analysis of national NCD strategies, we included a total of 18 relevant documents [26, 32, 37, 42-56] from 8 countries. These included 6 European countries (Germany, Switzerland, Netherlands, Finland, UK, Ireland) as well as Canada and Australia. Table 3-1 lists all included countries and their strategies.

18 Dokumente aus 8 Ländern (DE, CH, NL, FI, UK, IE, CA, AU) inkludiert

Table 3-1: Included countries and strategies (n=18)

Country	Title of strategy	[ref]
Germany	■ IN FORM Nationaler Aktionsplan zur Prävention von Fehlernährung, Bewegungsmangel, Übergewicht und damit zusammenhängenden Krankheiten	[51]
	■ Gesundheitsziele.de	[42]
Switzerland	■ Nationale Strategie Prävention nichtübertragbarer Krankheiten 2017-2024	[32]
	■ Nationale Strategie Herz- und Gefäßkrankheiten, Hirnschlag und Diabetes 2017-2024	[46]
Netherlands	■ The National Prevention Programme 2014-2016	[52]
Finland	■ National Mental Health Strategy and Programme for Suicide Prevention 2020-2030	[43]

Country	Title of strategy	[ref]
UK	■ No Health Without Mental Health: A Cross-Government Mental Health Outcomes Strategy for People of All Ages	[55]
	■ An Outcomes Strategy for COPD and Asthma	[54]
	■ Cardiovascular Disease Outcomes Strategy. Improving outcomes for people with or at risk of cardiovascular disease	[53]
	■ A Diabetes Strategic Framework	[48]
Ireland	■ National Framework for the Integrated Prevention and Management of Chronic Disease in Ireland 2020-2025	[37]
	■ Changing Cardiovascular Health. National Cardiovascular Health Policy	[56]
Canada	■ Improving health outcomes: A paradigm shift. Centre for Chronic Disease Prevention – Strategic Plan 2016-2019	[49]
	■ Changing directions, changing lives: The Mental Health Strategy for Canada	[47]
Australia	■ National Strategic Framework for Chronic Conditions	[26]
	■ Australian National Diabetes Strategy	[50]
	■ National Strategic Action Plan for Lung Conditions	[44]
	■ The Fifth National Mental Health and Suicide Prevention Plan	[45]

3.1.2 Main characteristics

Country, year

je 4 Strategien aus AU & UK, je 2 aus DE, CH, IE & CA, je 1 aus FI & NL; Publikation 2011-2020

We identified 4 relevant strategies from Australia [26, 44, 45, 50], 4 from the UK[10] [48, 53-55], 2 from Germany [42, 51], 2 from Switzerland [32, 46], 2 from Ireland [37, 56], 2 from Canada [47, 49], 1 from Finland [43] and 1 from the Netherlands [52]. The strategies were published between 2011 and 2020.[11]

Publisher

Großteil der Strategien von jew. Ministerium publiziert

12 of the 18 strategies were published by the respective ministries of health [26, 32, 43-45, 48, 50, 51, 53-56]. 1 strategy was issued by the government [52]. Another 3 strategies [37, 47, 49] were developed and published by different organisations at the federal level, such as the Public Health Agency of Canada or the Irish Health Service Executive. 1 strategy was launched by several medical associations [32], and 1 strategy has been developed by a long-term cooperation network of 120 organisations [42].

Indications (NCDs)

7 Strategien zu NCDs allgemein; 11 Strategien spezifisch zu einzelnen NCDs

7 of the included documents address prevention and/or management of NCDs or chronic diseases in general or mention several of the relevant NCDs [26, 32, 37, 42, 49, 51, 52]. 11 strategies are directed specifically to one of the NCDs: We identified 4 documents for mental health [43, 45, 47, 55], 2 for chronic respiratory diseases [44, 54], 2 for diabetes [48, 50], 2 for CVDs [53, 56], and 1 strategy that addresses CVDs as well as diabetes [46].

[10] For this review, we included NCD strategies of North Ireland and England. In the UK, responsibilities for health care are devolved to England, Northern Ireland, Wales, and Scotland. As a consequence, health care organisations differ in the devolved countries [57].

[11] No specific publication year can be provided for the German health targets, as the process of formulating health targets has been ongoing since 2000 [42].

Focus: prevention/management

The majority of the identified strategies include information on prevention AND management related to the NCDs [26, 37, 42-48, 50, 53-56]. 4 of the documents focus on prevention only [32, 49, 51, 52].

14 Strategien mit Fokus auf Prävention *und* Management; 4 nur Prävention

Targets/aims/vision

Most of the included strategies formulate an overarching aim or vision as well as more specific targets or objectives. 'Living healthier lives', 'stay healthy', or 'promote individual health' is a vision that is shared by several strategies on NCDs or chronic conditions in *general* [26, 32, 37, 42, 49, 51, 52]. Prevention of NCDs and chronic illness is also emphasised in these strategies' visions. Further essential keywords of the strategies on NCDs in general include high quality of life [26, 32, 51], healthy lifestyles [32, 51], health-promoting settings/environment [32, 52], and management of chronic conditions [26, 37].

Strategien formulieren meist übergreifende Vision & spezifische Ziele: z. B. „ein gesünderes Leben führen"

The strategies on *specific* diseases usually also formulate visions or overarching aims. The documents related to mental health, e.g., aim to 'improve mental health and wellness' [47, 55], 'raise awareness for mental health' [47], 'prevent and detect early' [45], and 'ensure access to high-quality services/effective treatment' [45, 55]. The strategies on chronic respiratory diseases target to 'improve the lives [of all Australians] through better lung health' [44] and to 'improve services for people with COPD and asthma' [54]. Diabetes strategies aim at developing and implementing an 'integrated and coordinated approach for reducing the social, human and economic impact of diabetes' [50], 'improving quality of life and reducing premature death' [46], and 'improving outcomes for people living with, or at risk of, diabetes' [48]. Strategies on CVDs focus on 'improving health and social care outcomes across the population' [53] and on 'ensuring an integrated and quality-assured approach in the management of cardiovascular diseases' [56].

Visionen spezifischer NCD-Strategien: z. B. „für psychische Gesundheit sensibilisieren", „Versorgung für Menschen mit COPD verbessern", „bessere Gesundheit für Menschen mit Diabetes" etc.

Most strategies also provide more specific objectives or targets. Various topics addressed in the strategies' aims or objectives are summarised in Table 3-2. Improving health in general and quality of life is part of most (15) strategies' objectives [26, 32, 37, 42, 44, 46-49, 51-56]. 13 strategies address prevention of chronic illness and (specific) NCDs, including reduction of premature deaths [26, 32, 37, 42, 44-47, 49, 50, 52, 54, 56]. Another important aspect is self-management and empowerment (incl. health literacy), emphasised by 8 strategies [26, 32, 37, 42, 44, 48, 50, 54]. Further, 8 strategies [26, 32, 37, 44, 47, 50, 52, 54] mention the reduction of health inequalities in their aims. This includes, e.g., focusing on disadvantaged groups [26, 52, 54] as well as improving equity in access to different services [26, 32, 44, 47]. Topics such as cooperation, collaboration and networking, across different health care sectors and levels are addressed in 6 of the included strategies [26, 46, 47, 49-51]. 5 strategies emphasise the importance of integrated care and coordinated services in their specific objectives [37, 46, 50, 51, 56]. Further topics include costs and resources [26, 32, 48], evidence and data [26, 37, 44, 46, 48-50], reducing stigma and discrimination [44, 45, 55], and the role of healthy lifestyles and healthy settings [32, 51].

spezifische Ziele beinhalten z. B. Verbesserung der Gesundheit & LQ (Lebensqualität), Prävention von NCDs, Selbstmanagement, Reduktion von gesundheitlicher Ungleichheit, integrierte Versorgung, Kooperation, etc.

Table 3-2: Topics addressed in the aims/objectives of included strategies

Topic	Specification (examples)	Number of strategies [ref]
Improving health in general/quality of life	living healthier lives, stay healthy, promote health, improve quality of life, children grow up healthier, improve health outcomes across the population, improve respiratory health and well-being of all communities, improve lives through better lung health, achieve best possible mental health, improve mental health and well-being of the population, improve outcomes for people living with diabetes, actively change cardiovascular health for the better, mobilise multi-sectoral and evidence-based action to promote healthy living	15 [26, 32, 37, 42, 44, 46-49, 51-56]
Prevention of NCDs/chronic illness	prevention of NCDs/chronic illness/COPD/lung conditions/CVDs/diabetes/mental illness and suicide/depression; reducing the increase in the burden of disease caused by NCDs, reducing premature deaths due to NCDs, effective prevention, mobilise multi-sectoral and evidence-based action to prevent chronic disease and injuries, focus on prevention for a healthier Australia, early detection of mental illness/depression/diabetes/CVD/COPD	13 [26, 32, 37, 42, 44-47, 49, 50, 52, 54, 56]
Self-management, empowerment, health literacy	shared decision-making and self-management, encouraging self-management, person-centred approaches, support self-care and self-management (empowerment), ongoing support as they self-manage their condition, improve health literacy	8 [26, 32, 37, 42, 44, 48, 50, 54]
Reduction of health inequalities	focusing on disadvantaged groups (e.g., target priority populations, focus on groups with greatest health risks to significantly reduce discrepancy in [healthy] life expectancy, minimise inequalities between communities, focus on disadvantaged groups and areas with high prevalence), improving equity in access to services (e.g., high-quality health care irrespective of background or personal circumstances, equitable access, equity in access to health promotion and prevention)	8 [26, 32, 37, 44, 47, 50, 52, 54]
Evidence, data	evidence-based action, evidence-based services, relevant and current evidence informs best practice; improve data base, increase research capacity, strengthen prevention and care through research, evidence and data	7 [26, 37, 44, 46, 48-50]
Cooperation, collaboration	collaboration and partnerships, collaboration and cooperation, multi-sectoral action, foster/ reinforce coordination and collaboration at all levels, network stakeholders, coordination and integration of care across services, settings, technology and sectors	6 [26, 46, 47, 49-51]
Integrated care, coordinated services, management of chronic conditions	integrated and patient-centred care, model of care for integrated prevention and management of chronic diseases, coordinated care across the health sector, integrated management, integrated and coordinated approach, proactive approach to early identification, diagnosis and intervention	5 [37, 46, 50, 51, 56]
Stigma, discrimination	reduce stigma and discrimination, raise awareness, reduce social isolation, assure the rights of people with mental illness and enable them to participate meaningfully in society	3 [44, 45, 55]
Costs, resources	reduce the increase in costs due to NCDs, better use of resources, achieve best value with public resources	3 [26, 32, 48]
Healthy lifestyle, healthy settings	target group-specific communication of importance of healthy lifestyle, empowerment to maintain healthy lifestyle; health-promoting environment, create or improve structures to facilitate a healthy lifestyle	2 [32, 51]

Additional documents

tw. zusätzliche Dokumente verfügbar, z. B. zum Implementierungsprozess, Evaluationen

4 strategies provide additional documents containing further information, e.g., on the implementation process [37, 45, 50] or on specific measures to be carried out within the framework of the strategy [32]. 7 strategies provide evaluation reports [32, 42, 47, 51, 54, 55] or detailed documents on relevant outcomes and indicators [32, 50, 55]. Other documents listed in the extraction tables refer to previous or complementing strategies of the respective countries [47-49, 56].

3.1.3 Implementation process

Time frame

14 of the 18 national strategies provide information on the time frame they were developed for. This period ranges from 2 years to a maximum of 10 years. For 7 strategies [49-52, 54-56], the specified time frame has already expired[12], whereas 7 of the included strategies [26, 32, 37, 43, 45, 46, 48] are still in implementation. 4 strategies do not specify the time frame [42, 44, 47, 53].

Zeitrahmen der Strategien von 2 bis max. 10 Jahren; Hälfte der Strategien derzeit in Umsetzung

Involved stakeholders

All of the included strategies mention a range of different stakeholders involved in the strategy's development and/or implementation. The most frequently named stakeholders include:

- government/ministries (at federal, state, municipal level): 18 strategies [26, 32, 37, 42-56];
- health care providers/professional groups: 16 strategies [26, 32, 37, 42-48, 50, 52-56];
- patients and their families/carers: 9 strategies [26, 37, 44, 45, 47, 48, 53-55];
- medical associations/commissions: 7 strategies [32, 44, 46, 51, 53, 54, 56];
- various non-governmental and not-for-profit organisations: 7 strategies [26, 32, 44, 47, 49, 50, 52];
- researcher, academic institutions: 6 strategies [26, 42, 44, 47, 49, 56];
- (public and private) health insurances: 4 strategies [26, 42, 44, 52];
- civil society/the 'public': 4 strategies [47, 51, 53, 56].

verschiedene Stakeholder in Entwicklung & Implementierung der Strategien involviert: z. B. Ministerien, Gesundheitspersonal, Patient*innen, med. Fachverbände, Wissenschaft, Krankenversicherung, Zivilbevölkerung

Specific networks or boards have been set up for some strategies to bring together the most important stakeholders, e.g., the Diabetes Network from North Ireland [48] or the German cooperation network *gesundheitsziele.de* [42].

tw. spezifische Boards oder Netzwerke

Organisational and governance conditions

The national strategies and action plans are described as, for example, a 'continuous process', an 'instrument of dialogue' [51], a 'guiding framework' for all stakeholders [32], a 'frame that structures the efforts' [49], an 'overarching policy' [26], a 'vision supported by high-level goals' [50], and a 'comprehensive, collaborative and evidence-based approach' [44].

Strategie als „kontinuierlicher Prozess", „Rahmenkonzept"

Several countries developed their own overarching structures, i.e. so-called Boards, Advisory Groups, or Networks, for the organisational and content-related implementation of the strategies. These include, for example, the Mental Health Strategy Ministerial Advisory Group [55], the Diabetes Network [48], the Respiratory Programme Board [54], the administrative office of the German National Action Plan [51], the committee of the German Health Targets [42], the strategic implementation committee of the Swiss NCD strategy [32], or the Mental Health Commission of Canada [47]. These structures usually bring together the various relevant stakeholders and monitor the strate-

manche Länder entwickelten eigene Strukturen für die Erstellung & Umsetzung der Strategie (z. B. Boards, Komitees), andere nutzen bereits bestehende Institutionen

[12] The Dutch Strategy is titled as Prevention Programme 2014-2016, but formulates long-term objectives which are to be met by 2030 [52].

gy's implementation to achieve the formulated objectives and visions. Other countries use already existing structures for coordinating the implementation; e.g., the Finnish Ministry of Social Affairs and Health will implement the proposals of the Mental Health Strategy [43].

tw. Arbeitsgruppen für spezifische Themen

For the development and implementation of specific actions and measures, some strategies report on the commissioning of topic-specific working groups, e.g. [42, 46, 51].

Good-Practice-Example:

Bsp. aus Irland für detaillierte Anleitung wie integrierte Versorgung lokal implementiert werden soll

„National Framework for the Integrated Prevention and Management of Chronic Disease in Ireland 2020-2025. A 10-step guide to support local implementation"

An example for detailed guidance on how integrated care should be implemented locally, can be found in the *National Framework for the integrated prevention and management of chronic disease in Ireland* [37]. The accompanying document [58] provides a 10-step guide for implementing integrated care at the local level. It is based on evidence of 'what works' drawn from international literature as well as from Irish experiences with the delivery of integrated care. The 10 steps include, e.g., 'establishing a governance structure' at national and local level, 'population health planning' (e.g., prevalence estimation, risk stratification) and 'mapping local services' (including a needs assessment). The next steps are the development of services and care pathways, of new ways of working (e.g., alternative outpatient pathways, including virtual consultations), of multidisciplinary Chronic Disease Specialist Teams and of a patient-centred care planning approach. Focus should be placed on the prevention of chronic diseases and the promotion of health. The guide also emphasises the importance of staff education, adequate financing and of monitoring and evaluation.

Monitoring/evaluation

alle Strategien beinhalten Informationen zu geplanter Evaluierung & Monitoring

3 Evaluationsberichte bereits vorhanden:

All included strategies provide information on their planned processes regarding monitoring and evaluation. 5 strategies indicate that a review will be conducted to assess progress after 3 [26, 50] or 5 years [44, 47, 56]. 14 documents mention that relevant indicators and outcomes have already been defined as part of an evaluation concept [26, 32, 37, 42, 43, 45-48, 50-53, 55]. 3 evaluation reports are already available; these include a process evaluation of the German health targets [42], an interim evaluation of the Swiss NCD strategy [32] and a final evaluation report of the German National Action Plan [51].

Prozessevaluierung der deutschen Gesundheitsziele

The aim of evaluating the overall process of the German health targets, which was published in 2014 [59], was to identify the added value of *gesundheitsziele.de* for the stakeholders and to determine the interfaces and interactions between them. The evaluation enabled the individual stakeholders to assess the relevance of the national health targets that have been developed. All stakeholders were invited to participate in the evaluation by answering the questionnaire; the results showed that all participants considered the joint development of health goals important. Health targets serve to promote the population's health, concentrate efforts and integrate different interests in a federal health system, and orient health policy towards priority health problems of the future. Many participants were in favour of regularly developing new targets and updating the already existing ones. Indicators of success should be defined for the targets, and their achievement should be regularly reviewed based on such indicators.

Zwischenevaluierung der Schweizer NCD-Strategie

The interim evaluation report of the Swiss NCD strategy was published in 2020 [60]. It aimed at assessing the implementation status, achievement of objectives, appropriateness of the measures, as well as the cooperation and coordination in the implementation of the strategy by the end of 2019. The evaluation is based on written documents, interviews and an online survey of the cantonal health promotion officers. Overall, the strategy's implementation has gotten off to a good start, according to the evaluation authors. Existing prevention activities in the areas of tobacco, alcohol, nutrition and exercise are being continued and further developed, as is prevention in the economy and workplace. The thematic area and project funding for prevention in health care have been redesigned. Difficulties in implementing the NCD strategy were encountered, for example, in developing the funding basis for comprehensive projects aimed at several risk factors and in setting up activities and structures in the new thematic area of prevention in health care.

Evaluationsbericht des deutschen Nationalen Aktionsplans IN FORM

The purpose of the final evaluation report of the German National Action Plan IN FORM [61] was to describe the implementation since 2008, review the achievement of the targets and identify options for a possible continuation for the implementation of the National Action Plan. Evaluation methods include, for example, secondary data analysis (project and evaluation reports), online surveys, case studies on selected projects as well as expert interviews. Several recommendations for continuing the National Action Plan were formulated, e.g. continuation and intensification of implementation by the 2 involved ministries, strengthening structural prevention and supporting multipliers through training, counselling and guidance.

Funding

heterogene & meist nicht detaillierte Informationen zur Finanzierung der Strategien

diese beziehen sich meist auf Finanzierung der Entwicklung der Strategie, selten auf die Umsetzung der Maßnahmen

The information contained in the strategies on the topic of financing is heterogeneous and mostly not detailed. 3 documents do not provide any information at all [26, 45, 50]. Some strategies only disclose the funding of the strategy development (e.g., the respective ministries [43, 44, 56]), while other documents also provide information on the financing of the specific measures planned within the framework of the strategy. The Swiss NCD strategy presents the most detailed insight into the funding plans for specific measures: Swiss funding sources for NCD prevention projects are Health Promotion Switzerland (consisting of annual contributions from each insured person), the Tobacco Prevention Fund (financed by the levy per pack of cigarettes sold) and the 'Alkoholzehntel' (cantons receive 10% of the net revenue from the alcohol tax). Additionally, activities are financed by the regular budgets from the cantons and the federal government [32].

Beispiele: CH, NL, DE, UK

Another example is the Dutch strategy indicating that all involved stakeholders contributed to the National Prevention Programme by direct investments from their own budgets, without mentioning additional resources [52]. The German strategy states an annual budget of 5 million euros to implement the National Action Plan for the period 2008-2010 [51]. The UK strategy on CVDs mentions that it has been developed under the premise that there won't be additional funding, aiming at using resources more efficiently [53].

Actions/activities to reach the aims/objectives of the strategy

alle Strategien nennen spezifische Maßnahmen zur Erreichung der Ziele

Gruppierung in 7 Kategorien:

z. B. Primärprävention, Selbstmanagement, integrierte Versorgung, zielgruppenspezifische Maßnahmen, …

All of the included strategies provide information on specific activities or measures planned to be carried out within the implementation of the strategy to reach the respective aims. These are usually structured according to the objectives, 'strategic directions', 'priority areas' or 'fields of action'. For further analysis, the listed activities are grouped by the following topics (see Table 3-3):

- health promotion, primary prevention
- self-management, health literacy
- early detection, screening
- disease management, integrated care
- target group-specific measures, populations at high risk
- activities outside the health care sector
- digital technologies

Table 3-3: Planned activities within the national strategies by topic

Topic	Specification (examples)	Number of strategies [ref]
Health promotion, primary prevention (incl. behavioural and structural prevention)	*Chronic disease/NCDs in general*: promote healthy eating/balanced nutrition and physical activity, strengthen tobacco and alcohol prevention; make a population-wide and lifestyle-oriented prevention campaign for a healthy lifestyle; encourage healthy behaviour, facilitate healthy choices; facilitate physical activity in everyday life; promote healthy local environments and settings, strengthen prevention in health care; build chronic disease prevention strategies into clinical pathways	7 [26, 32, 37, 42, 49, 51, 52]
	Cardiovascular diseases: focus on population-oriented prevention and health promotion programmes and education measures; combine population-based and high-risk approaches; prioritise actions that promote cardiovascular health (e.g., maintaining a healthy bodyweight, healthy eating, physical activity, reducing salt intake, quitting smoking, responsible alcohol consumption)	3 [46, 53, 56]
	Chronic respiratory diseases: develop prevention strategies for respiratory diseases; support accelerated efforts in reducing smoking prevalence and working towards a tobacco-free society	2 [44, 54]
	Diabetes: focus on population-oriented prevention and health promotion programmes and education measures; embed physical activity and healthy eating in everyday life; support people in making healthy choices; establish an approach to the prevention of type II diabetes	3 [46, 48, 50]
	Depression: develop integrated approaches to suicide prevention; improve the physical health of people living with mental illness and reduce early mortality; reduce social and other determinants of mental ill health across all ages; utilise evidence-based approaches in promotion and preventative work within social and health care services	4 [43, 45, 47, 55]
Self-management, health literacy	*Chronic disease/NCDs in general*: targeted health messages and education; enable people to lead a healthy lifestyle and strengthen self-responsible behaviour; support people to learn more about their chronic condition and its management; give generally understandable information about the clinical picture and treatment options; strengthen self-management of people with chronic conditions, implement 'self-management support' framework locally	5 [26, 32, 37, 42, 51]
	Cardiovascular diseases: ensure access to education to support self-management; strengthen health literacy; adapt offers in the areas of patient education/self-management/self-help by taking into account modern technologies; increase awareness by the general public of cardiovascular risk factors and levels of risk associated with them through undertaking media and education campaigns	3 [46, 53, 56]
	Chronic respiratory diseases: deliver awareness and education campaigns to increase knowledge of good lung health and symptoms of lung conditions; provide tools, information and support services for patients to support effective self-management practices; develop and pilot innovative technologies and strategies that support patients to be actively involved in their lung health	2 [44, 54]

Topic	Specification (examples)	Number of strategies [ref]
Self-management, health literacy *(continuation)*	*Diabetes*: enhance access to structured self-management education programmes; agree a menu of quality assured Structured Diabetes Education programmes; strengthen health literacy; adapt offers in the areas of patient education/self-management/self-help by taking into account modern technologies	3 [46, 48, 50]
	Depression: increase mental health literacy and skills in early childhood education, in the workplace and services for older adults; offer people age and developmentally appropriate information; reduce stigma and discrimination by building awareness and knowledge about the impact	2 [43, 55]
Early detection, screening	*Chronic disease/NCDs in general*: early detection of risk factors; promotion of health checks, integrated risk assessments and evidence-based screening programmes	4 [26, 37, 42, 52]
	Cardiovascular diseases: develop, adopt and disseminate evidence-based, nation-wide practice recommendations for early detection of key risk factors, support the successful implementation of the NHS Health Check Programme; develop new tools to support case finding in primary care; develop protocols for risk assessment and early detection of specific CVDs	3 [46, 53, 56]
	Chronic respiratory diseases: enhance early accurate diagnosis and assessment of severity to ensure late diagnosis is minimised	2 [44, 54]
	Diabetes: increase recognition and awareness of type II diabetes and early detection among health care providers and the community; promote increased use of risk screening tools and early management of diabetes with a focus on high-risk groups; develop, adapt and disseminate evidence-based, nation-wide practice recommendations for early detection of key risk factors	3 [46, 48, 50]
	Depression: identify mental health problems and intervene early across all age groups	1 [55]
Disease management, integrated care	*Chronic disease/NCDs in general*: develop integrated pathways between primary and secondary care; develop patient-centred care planning approach; develop Chronic Disease Specialist Teams; offer evidence-based targeted interventions for at-risk people and populations; provide efficient, effective and appropriate care to support people with chronic conditions to optimise quality of life; ensure effective transfer, discharge and referral pathways between healthcare services	2 [26, 37]
	Cardiovascular diseases: implement concepts for patient-centred, coordinated care; promote regional networking of existing services in the areas of cardiovascular prevention and rehabilitation, identify how to incentivise and support primary care consistently to provide good management of people with or at risk of CVD, improve acute care; develop structured clinical care; prioritise effective management of hypertension in primary care	3 [46, 53, 56]
	Chronic respiratory diseases: provide chronic disease management and proactive management of all disease severities and any co-morbid conditions and responsive episodic care around the needs of the patient; revise, disseminate and implement evidence-based clinical practice guidelines and tools for lung conditions; investigate and promote equitable access to evidence-based diagnostic tests, medicines and novel treatments	2 [44, 54]
	Diabetes: implement concepts for patient-centred, coordinated care; promote the Shared Decision Making approach; take into account the specific needs of multimorbid patients; improve the experience of care in hospital for people living with diabetes but admitted for other reasons; reduce the occurrence of diabetes-related complications; develop nationally agreed guidelines, local care pathways and complications prevention programmes, provide high-quality hospital care	3 [46, 48, 50]
	Depression: support integrated planning and service delivery at the regional level; develop, implement and monitor national guidelines to improve coordination of treatment and supports; make safety and quality central to mental health service delivery; provide/improve access to the right combination of services, treatments and supports, when and where people need them; ensure high-quality care and treatment in the least restrictive environment, in all settings; ensure appropriate, effective transition between services when necessary, without discriminatory, professional, organisation or location barriers getting in the way; ensure somatic healthcare for people with mental and substance abuse disorders	4 [43, 45, 47, 55]

Topic	Specification (examples)	Number of strategies [ref]
Target group-specific measures, populations at high risk	*Chronic disease/NCDs in general*: integrate target-group-oriented measures for each age group; specifically, address children and young people as well as adults and older people, target priority populations, e.g., deliver services in a culturally safe way involving people from the same cultural background	4 [26, 32, 42, 51]
	Cardiovascular diseases: promote equity by addressing the specific needs of vulnerable groups	1 [46]
	Chronic respiratory diseases: -	-
	Diabetes: promote equity by addressing the specific needs of vulnerable groups; conduct formal needs assessments for particularly vulnerable people to inform future service models and improve outcomes; reduce the impact of diabetes among pregnant women with pre-existing or gestational diabetes, among Aborigines and Torres Strait Islander peoples and other priority groups (culturally and linguistically diverse people, older Australians, Australians living in rural and remote areas)	3 [46, 48, 50]
	Depression: ensure equity of access for all groups, including the most disadvantaged and excluded to high-quality, appropriate, comprehensive services; reduce disparities in risk factors and access to mental health services, and strengthen the response to the needs of diverse communities; improve mental health services and supports by and for immigrants, refugees, ethno-cultural and racialised groups; improve Aboriginal and Torres Strait Islander mental health and suicide prevention; work with First Nations, Inuit, and Métis to address their distinct mental health needs, acknowledging their unique circumstances, rights, and cultures; develop accessible and versatile services which can be provided in the context of the clients' everyday surroundings, particularly for people who are difficult to reach, at risk of social exclusion, or groups who are vulnerable due to their cultural or social status; use outreach services to reach those who are particularly difficult to reach	4 [43, 45, 47, 55]
Activities outside the health care sector	*Chronic disease/NCDs in general*: improve the framework conditions with regard to the promotion of healthy eating and physical activity within educational and care community facilities; promote further implementation of tobacco control measures concerning tobacco advertising and availability of tobacco products; further develop cooperation with the economy and facilitate healthy choices (e.g., 'Nutri-Score', '5 a day' campaign); improve healthy working (e.g., focus on work-related stress, special attention for employees with a disability or chronic condition); target multiple settings (e.g., schools, workplaces, communities)	5 [26, 32, 42, 51, 52]
	Cardiovascular diseases: promote structural prevention (e.g., promote physical activity-friendly urban areas, reduction of sugar, salt and fat in food, introduce food labelling, create incentives for healthy behaviour)	1 [46]
	Chronic respiratory diseases: deliver awareness and education campaigns to improve knowledge of occupational hazards that affect the lungs and to promote safe workplaces/ensure employers are doing all they can to protect staff and encourage good lung health	2 [44, 54]
	Diabetes: promote structural prevention (e.g. promote physical activity-friendly urban areas, reduction of sugar, salt and fat in food, introduce food labelling, create incentives for healthy behaviour), embed physical activity and healthy eating in everyday life (e.g., workplaces, schools and communities); increase the availability of and demand for healthier food or reduce the availability of and demand for unhealthy food (e.g., through continued implementation and targeted education on the Front-of-Pack Labelling)	2 [46, 50]
	Depression: increase mental health literacy and skills in early childhood education/schools, workplace, and services for older adults; implement practical help for families via legislative processes in order to reduce poverty in families, create benefits and support parenting; develop a more family-friendly workplace/create mentally healthy workplaces; increase the capacity of families, caregivers, schools, post-secondary institutions and community organisations to promote the mental health of infants, children and youth, prevent mental illness and suicide wherever possible, and intervene early when problems first emerge; reduce the over-representation of people living with mental health problems and illnesses in the criminal justice system and provide appropriate services, treatment and supports to those who are in the system; increase access to housing with supports, and to income, employment, and education support for people living with mental health problems and illnesses, and provide greater support to families; build care and support around outcomes that matter to individuals to enable them to live the lives they want to live, including good relationships, purpose, education, housing and employment	3 [43, 47, 55]

Topic	Specification (examples)	Number of strategies [ref]
Digital technologies	*Chronic disease/NCDs in general*: in the Irish 'model of care' (defining 5 levels of services), services on level 0 ('living well with chronic disease') include telehealth and remote monitoring; technology broadens access to health services, including appropriate use of telehealth and digital health options	2 [26, 37]
	Cardiovascular diseases: adapt offers in the areas of patient education/self-management/self-help taking into account modern technologies; support patients in their daily lives through adequate communication (including modern communication technologies)	1 [46]
	Chronic respiratory diseases: –	-
	Diabetes: adapt offers in the areas of patient education/self-management/self-help taking into account modern technologies; support patients in their daily lives through adequate communication (including modern communication technologies); support current access to flexible telemedicine consultations (e.g., medical consultation for diabetes, eye screening programme, telephone-based lifestyle coaching) and explore the expansion of telehealth services; ensure the availability of telehealth and internet medical services for Australians living in rural and remote areas; explore the role of digital technology and social media in self-management; establish a diabetes care pathway with the electronic care record, and a portal through which people living with diabetes can manage their own health information and interact with clinicians	3 [46, 48, 50]
	Depression: establish a digital information centre for effective mental health promotion and prevention of mental health problems	1 [43]

Chronic disease/NCDs in general

7 Strategien zu NCDs allgemein

All of the 7 strategies [26, 32, 37, 42, 49, 51, 52] addressing prevention and/or management of NCDs or chronic disease in general focus on health promotion and primary prevention. 3 main topics can be summarised:

Fokus auf Verhaltens- & Verhältnisprävention, Prävention in der Gesundheitsversorgung

- healthy behaviour and lifestyles (behavioural prevention), e.g., promote healthy eating and physical activity, strengthen tobacco and alcohol prevention, hold lifestyle-oriented prevention campaigns for a healthy lifestyle;
- healthy settings (structural prevention), e.g., facilitate healthy choices, promote healthy local environments and settings;
- prevention within health care, e.g., build chronic disease prevention strategies into clinical pathways, strengthen prevention in health care.

weitere Bereiche für geplante Aktivitäten: z. B. Stärkung von Selbstmanagement; Früherkennung/Screening

5 strategies plan to strengthen self-management and health literacy, e.g., by providing targeted health messages and supporting people to learn more about their chronic condition and its management [26, 32, 37, 42, 51].

Early detection of diseases/risk factors, screenings and health checks are stated in 4 strategies [26, 37, 42, 52].

2 of the general NCD strategies [26, 37] mention activities of disease management. Specific activities include developing patient-centred care planning approaches and ensuring effective transfer, discharge and referral pathways between healthcare services.

Aktivitäten für spezifische Ziel- & Risikogruppen

4 strategies [26, 32, 42, 51] emphasise the importance of developing target group-specific measures (e.g., children and young people, as well as adults and older people) and of addressing so-called priority populations (such as Aboriginal and Torres Strait Islander People in the Australian strategy [26]).

Maßnahmen in Schule & Arbeitsplatz

5 strategies mention activities outside the health care system, e.g., schools and workplaces, or concerning legislation (tobacco control, nutrition) [26, 32, 42, 51, 52].

Cardiovascular diseases

3 Strategien zu kardiovaskulären Erkrankungen

Beispiele für Maßnahmen:

For CVDs, a total of 3 relevant strategies were identified [46, 53, 56] (1 strategy also addresses diabetes [46]). All 3 strategies on CVDs include health promotion and primary prevention activities, such as prioritising actions that promote cardiovascular health (such as maintaining healthy body weight, healthy eating, physical activity, quitting smoking and a responsible alcohol consumption).

Gesundheitsförderung& Vermeidung von Risikofaktoren, Medien- & Aufklärungskampagnen

The strategies also underline the importance of supporting self-management and strengthening health literacy and recommend media and education campaigns to increase awareness of cardiovascular risk factors.

All 3 strategies [46, 53, 56] report planned activities related to early detection and screening, e.g., to develop new tools to support case finding in primary care.

Anreize für Primärversorgung

In the field of disease management and integrated care, suggested activities are, for example, the promotion of regional networking of existing services in the areas of cardiovascular prevention and rehabilitation, and to identify incentive and support mechanisms for primary care to provide consistently good management of people with or at risk of CVDs.

Addressieren von Risikogruppen

1 strategy mentions the need of promoting equity by addressing the specific needs of vulnerable groups [46].

Verhältnisprävention, digitale Technologien

The same strategy also plans to promote structural prevention, e.g., by promoting physical activity-friendly urban areas and by introducing food labelling and includes activities related to digital technologies (such as adapting self-management offers by taking into account modern technologies).

Chronic respiratory diseases

2 Strategien zu chron. Atemwegserkrankungen

2 strategies address chronic respiratory diseases [44, 54]. Both strategies provide health promotion and primary prevention activities, e.g. developing prevention strategies for respiratory diseases and working towards a tobacco-free society.

Beispiele für Aktivitäten: Präventionsstrategien mit dem Ziel einer tabakfreien Gesellschaft

Planned activities for self-management and health literacy include providing tools and information for patients to support effective self-management and developing and piloting innovative technologies and strategies that support patients to be actively involved in their lung health.

Early detection and screening are also mentioned in both strategies [44, 54] (to enhance early accurate diagnosis and assessment of severity).

proaktives Krankheitsmanagement

The 2 strategies also report planned disease management activities, for example, to provide chronic disease management and proactive management of all disease severities and any co-morbid conditions around the patient's needs.

Maßnahmen mit Fokus auf sichere Arbeitsplätze

Suggested activities outside the healthcare sector focus on safe workplaces: improving knowledge of occupational hazards affecting the lungs and ensuring employers protect staff and encourage good lung health.

No information on digital technologies or specific priority populations is provided in the 2 strategies on chronic respiratory diseases.

Diabetes

3 Strategien zu Diabetes

Diabetes is the focus of 3 strategies [46, 48, 50] (in [46], diabetes, as well as CVDs, have been addressed). All 3 strategies report planned activities in the field of health promotion and primary prevention. These include: To focus on population-oriented prevention and health promotion programmes, integrating physical activity and healthy eating into everyday life, and supporting people in making healthy choices.

Beispiele für Aktivitäten: Integration von Bewegung & gesunder Ernährung in den Alltag

All strategies also mention activities related to self-management and health literacy, e.g., enhancing access to structured self-management education programmes and adapting patient education offers by considering modern technologies [46, 48, 50].

Früherkennung, Screening-Tools v.a. für Risikogruppen

Another crucial aspect of diabetes strategies is early detection. Strategies recommend increasing awareness of type II diabetes and early detection among health care providers and the community and promoting increased use of risk screening tools focusing on high-risk groups.

Entwicklung von lokalen Versorgungspfaden

Suggested activities in disease management and integrated care include the promotion of the Shared Decision Making approach (i.e., joint decision making of a person/patient and a healthcare professional regarding all sorts of health care choices, based both on evidence and on the person's individual preferences, beliefs and values), the development of local care pathways and complications prevention programmes, as well as the implementation of concepts for patient-centred, coordinated care.

Fokus auf vulnerable Gruppen

All 3 strategies [46, 48, 50] also emphasise the need to address vulnerable groups in order to reduce the impact of diabetes among those groups (e.g., culturally and linguistically diverse people, older people, people living in rural and remote areas [50]).

Aktivitäten außerhalb des Gesundheitssektors

Activities outside the health care sector are also mentioned in 2 diabetes strategies [46, 50]. These include promoting physical activity-friendly urban areas, reducing sugar, salt and fat in food, integrating physical activity and healthy eating in everyday life (e.g., workplaces, schools, communities) and introducing food labelling.

digitale Technologien

Another important aspect of all 3 diabetes strategies [46, 48, 50] is digital technologies. These can be used, for example, to facilitate telemedicine consultations (such as medical consultations or lifestyle coachings) or to support self-management approaches.

Depression

4 Strategien für Depression/psych. Gesundheit

4 strategies deal with depression/mental health in general [43, 45, 47, 55]. All 4 strategies report planned activities in the area of health promotion and primary prevention. These include, e.g., reducing social and other determinants of mental ill health across all ages and utilising evidence-based approaches in health promotion and preventative work within social and health care services.

Beispiele für Maßnahmen:

Verbesserung psych. Gesundheitskompetenz in Bildung & Arbeitswelt

2 strategies mention activities related to self-management, such as increasing mental health literacy and skills in early childhood education, in the workplace and services for older adults, and offering people age and developmentally appropriate information [43, 55].

1 strategy [55] emphasises the importance of early identification and intervention.

Verbesserung der integrierten Versorgung

All 4 depression/mental health strategies [43, 45, 47, 55] include activities of disease management and integrated care, such as supporting integrated planning and service delivery at the regional level, providing access to the right combination of services, treatments and supports when and where people need them, ensuring appropriate, effective transition between services as well as high-quality care and treatment in all settings. The provision of somatic health care for people with mental disorders is also highlighted.

Fokus auf Populationen mit hohem Risiko

All 4 strategies provide information on planned activities to reach populations at high risk, e.g., reducing disparities in risk factors and access to mental health services; improving mental health services and supports by and for immigrants, refugees and ethnocultural groups; developing accessible and versatile services which can be provided in the context of the clients' everyday surroundings (particularly for people who are difficult to reach, at risk of social exclusion, or groups who are vulnerable due to their cultural or social status) as well as using outreach services [43, 45, 47, 55].

Aktivitäten außerhalb des Gesundheitssystems (z. B. Reduktion von Armut)

3 strategies [43, 47, 55] mention specific activities outside the health care sector. These include, for example, to reduce poverty in families and support parenting, to develop mentally healthy and more family-friendly workplaces, to increase capacities of caregivers, schools and community organisations to promote the mental health of children, prevent mental illness and intervene early when problems first emerge.

Related to digital technologies, 1 strategy mentions the establishment of a digital information centre for effective mental health promotion and prevention of mental health problems [43].

Good-Practice-Example:

Schweizer NCD-Strategie: zusätzliches Dokument mit allen Maßnahmen & Interventionen („Maßnahmenplan")

The Swiss NCD Strategy provides a separate document listing all measures and interventions to be carried out within the Strategy: The accompanying NCD action plan ('NCD-Maßnahmenplan') [62] compiles the measures taken by the different stakeholders that are necessary to improve coordination between the stakeholders, to increase the efficiency of prevention and health promotion and to achieve the goals of the NCD strategy. The measures are divided into 3 areas:

3 Maßnahmenbereiche:

Bevölkerungsbezogene Gesundheitsförderung & Prävention

- *Population-based health promotion and prevention:* address people in their everyday life and aims to tackle risk factors in population groups, e.g.,
  - expand tobacco and alcohol prevention as well as the promotion of physical activity and balanced nutrition,
  - address specifically children and adolescents as well as older people,
  - identify success factors for cantonal prevention programmes.

Prävention in der Gesundheitsversorgung

- *Prevention in health care:* is aimed at people who are in contact with the health and social system because they have increased risks of illness or are already ill; the measures in this area integrate prevention into the care chain; e.g.,
  - train and educate health professionals,
  - strengthen the self-management of chronically ill people and their relatives,
  - promote the use of new technologies.

- *Prevention in the economy and the world of work:* emphasises the role of business in the health of the population, both as an employer and as a producer of services and products.; e.g.,
  - establish institutional cooperation in the area of occupational health management,
  - further develop cooperation with the business community and facilitate healthy choices.

Prävention in Wirtschaft & Arbeitswelt

Additionally, cross-cutting measures, relating to the fields of action defined in the NCD Strategy ('coordination and cooperation', 'funding', 'research and monitoring', 'information and education', 'framework conditions'), contribute to achieving the goals of the NCD strategy. Focus topics are relevant for all measures and include 'equity in health' and the life phases 'childhood and adolescence', 'adulthood' and 'old age'. These cross-cutting and focus topics result in a range of further measures, for example:

zusätzlich Querschnittmaßnahmen, z. B. „Rahmenbedingungen" sowie Fokusthemen, z. B. „Gesundheitliche Ungleichheit"

- inform and raise awareness about risk and protective factors
- raising awareness among socially disadvantaged people,
- improve health-promoting framework conditions ('make the healthy choice the easy choice', strengthen structural prevention) [62].

3.1.4 Specific interventions and programmes

Liste mit 17 bereits evaluierten Programmen

After analysing the included national strategies, we prepared a list of potentially relevant specific programmes and interventions that have been evaluated and can therefore be further analysed in Part II. We identified 17 programmes which are listed in the Table A-9.

tw. direkt aus den Strategien, tw. aus anderen Quellen

Some of the 17 programmes come directly from the respective national strategy. However, several strategies did not provide information on any specific interventions. In this case, the respective programmes were identified through other means of research (e.g. through the ministries' websites or similar).

je 2-6 Programme zu den einzelnen NCDs & krankheitsübergreifende Programme

We identified 2 programmes related to the management and prevention of CVDs and 3 programmes dealing with chronic respiratory diseases. For the prevention and/or management of mental health problems, 2 programmes were included in our list. A total of 6 programmes aiming at preventing or managing diabetes were considered as potentially relevant for Part II. Lastly, we identified 4 programmes that cover multiple diseases.

hohe Heterogenität der Evaluationsstudien in Bezug auf Studiendesign, Anzahl der Patient*innen, Outcomes

The characteristics of the studies that evaluated the identified programmes showed high heterogeneity. Study designs included, e.g., meta-analyses, randomised controlled trials (RCTs), non-randomised controlled trials (NRCTs), cohort studies, pre-post analyses as well as mixed-method evaluations. The number of patients ranged from below 100 patients to 8 million patients. The analysed outcomes differed according to the respective indication and included, for example, mortality, morbidity, disease prevalence, quality of life, access/utilisation of health services, acceptance and patient satisfaction.

11 Programme wurden ausgewählt (Teil II)

From the 17 programmes, 11 programmes were chosen for further analysis will be described in more detail in Part II.

3.2 Part II: Evaluation of programmes and interventions

FF3: Evaluationsergebnisse von Programmen

In this chapter, we aim to answer research question 3:

- RQ3: Which *evaluation results* of these programmes/interventions (e.g., implementation, effectiveness) can be summarised?

3.2.1 Selected articles for evaluation from the 11 programmes

11 Programme in Absprache mit BMSGPK ausgewählt

The following table gives an overview of the selected programmes sorted by indications. These programmes were chosen in accordance with the Austrian MoH in July 2021. We aimed to cover all indications and to include prevention *and* management programmes. Priority was given to programmes with potential transferability and feasibility for the Austrian health care system and, if available, to high quality of study design, high number of involved patients and long follow-ups.

zu diesen wurden 21 Artikel inkludiert

After selecting the 11 programmes for further evaluation, a systematic literature search was conducted to identify all published articles belonging to the programmes. We included 21 articles, which we evaluated and synthesised in further detail. All extraction tables of the following part can be found in the Appendix Table A-10 to A-15.

Table 3-4: Overview of the included studies for evaluation (part II)

Country, prevention/ management	Project name	Aims, type of intervention	Study design	Number of included patients/ analysed patients, last follow-up after baseline assessment	Author, year [reference]
Cardiovascular diseases					
DE management	Disease Management Programme zu koronarer Herzkrankheit	■ improve coordination of treatment courses in outpatient/inpatient areas ■ treatment process that improves coordination of treatment courses	Empirical non-randomised controlled study (cross-sectional postal survey)	2,563/2,330, 27% in DMP -	Gapp, 2008 [63]
			Cohort study	Baseline 2004: 4,125.893 patient cases; end of observation period 2017: 1,828.075 13 years	Berendes, 2018 [64]
FI prevention	North Karelia Project (1972-1997)	■ reduce burden of coronary heart disease mortality rates ■ community-based interventions, national-level policy changes/legislation	Controlled study comparing independent cross-sectional surveys from 1972 and 1987	30,118 4 independent population samples (1972, 1977, 1982, 1987)	Jousilahti, 1994 [65]
			Review; 9 independent surveys of cross-sectional population	34,525 9 independent population samples (1972 to 2012)	Jousilahti, 2016 [66]
			Review	-	Puska, 2016 [67]
Chronic respiratory diseases					
CH management	Besser leben mit COPD	■ help patients cope better with their disease ■ selfmanagement programme (group coachings)	Pre-post analysis of pts data (effectiveness)	122/94 14 months	Strassmann, 2021 [68]
			Prospectively planned, non-randomised controlled study	467 (I 71 vs. C 396) 24 months	Steurer-Stey, 2018 [69]
DE management	Disease Management Programme zu COPD	■ improve coordination of treatment courses in outpatient/inpatient areas ■ treatment process that improves coordination of treatment courses	Prospective multicentre cross-sectional study	1,038 asthma patients, 846 COPD patients (70% in DMP programme) 12 months	Kannies, 2020 [70]
			Non-experimental, retrospective population-based cohort study using administrative data	215,104 (25,269 in DMP) 3 years	Achelrod, 2016 [71]
Diabetes Type II					
DE prevention	GLICEMIA	■ reduce risk factors ■ pharmacy-based prevention programme (individual counselling, educational group sessions)	Cluster-randomized controlled trial	1,140/1,092 (I 530 vs. C 562) 12 months	Schmiedel, 2015 [72]
				1140/1,087 (I 527 vs. C 560) 12 months	Schmiedel, 2020 [73]
DE management	Disease Management Programme Diabetes	■ improve coordination of treatment courses in outpatient/inpatient areas ■ treatment process that improves coordination of treatment courses	Systematic literature review	9 studies (16 publications) with a range from 85 to 84,410 pts in DMP groups and a range from 64 to 78,137 pts in control groups Observation period between 2 months and 5y	Fuchs, 2014 [74]
			Retrospective study based on patient data	14,759 (DMP: 5,875, standard care: 8,884) -	Wiefarn, 2017 [75]

Country, prevention/ management	Project name	Aims, type of intervention	Study design	Number of included patients/ analysed patients, last follow-up after baseline assessment	Author, year [reference]
FI prevention	The Finnish Diabetes Prevention Study (DPS)	■ weight reduction, moderate-intensity physical activity, reduction of dietary fat, total energy, saturated fat and fibre ■ to equip participants with necessary knowledge and skills and to achieve gradual, permanent behavioural changes	Randomised controlled trial	522 (I 265 vs. C 257)/after 1y: 506 (I 256 vs. C 250)/after 3y: 434 (I 231 vs. C 203) 26 months	Lindström, 2003 [76]
				522 (I 265 vs. C 257)/after 13y: 366 (I 200 vs. C 166) Median of 9 years	Lindström, 2013 [77]
Mental health					
AUS prevention/ management	Mental Health First Aid	■ improve mental health literacy and provide the skills/knowledge to help people manage mental health problems ■ courses teach people how to recognise signs/ symptoms of mental health problems, provide initial help and guide towards professional help	Meta-analysis (incl. 15 articles: 12 Australian, 1 Canadian, 2 Swedish)	Total number of 3,376 people among the included 15 studies (range: 23-753) 5 studies: long-term FU 6 months after course completion; 8 studies: long-term FU between 6 weeks and 6 months after course completion; 2 studies: no FU	Hadlaczky, 2014 [78]
			Narrative description	-	Kitchener, 2008 [79]
CAN management	Stepped Care 2.0	■ improve access to publicly funded mental health services ■ client-centred stage system of care that prioritises the most effective and least intensive treatment (e.g., online self-help, peer support, counselling groups, specialist care)	Mixed-methods evaluation	n=132 health care providers (baseline survey), n=32 health-care providers (provider post-implementation questionnaire), n=212 clients (client satisfaction survey) - (project duration 18 months)	Cornish, 2019 [80]
Various diseases					
CH prevention	Girasole	■ reduce risk factors for NCDs and promote physical activity ■ coaching for health-related behavioural changes by the GP	Evaluation report (pre-post comparison)	19/17 GPs, 181/100 pts n.r.	Oetterli, 2019 [81]
UK prevention	Making every contact count (MECC)	■ train front-line staff (health and social care practitioners) in 'Healthy Conversation Skills' ■ behaviour change approach that utilises day-to-day interactions of health/social care staff and patients to support patients in making positive changes to their physical/mental health	Controlled trial	implementation outcomes: 148/148 effectiveness outcomes: 148/143 (short-term), 148/139 (medium-term), 168 observed conversations involving 70 trainees (long-term) 1 year post-training	Lawrence, 2016 [82]
			Prospective evaluation (survey design; within-subject design)	206; 256 (only free text feedback) No FU	Chisholm, 2020 [83]

AUS, Australia. C, control group. CAN, Canada. CH, Switzerland. COPD, chronic obstructive pulmonary disease. DE, Germany. DMP, disease management programme. DPS, Diabetes Prevention Study. FI, Finland. FU, follow-up. GP, general practitioner. I, intervention group. MECC, Making every contact count. NCD, non-communicable disease. n.r., not reported, pts, patients. UK, United Kingdom. y, year(s).

3.2.2 Cardiovascular diseases

Regarding specific interventions for the prevention and/or management of CVDs, 2 programmes were chosen for detailed analysis: the German DMP for coronary heart disease and the North Karelia Project from Finland.

2 Programme ausgewählt

Disease management programme (Germany)

Intervention

DMPs for coronary heart disease include the agreement of individual therapy goals, e.g., concerning blood pressure, weight, abstinence from nicotine, physical activity, nutrition and metabolic parameters. In particular, symptom severity and control of cardiac risk factors are recorded, and attention is paid to indications of possible complications of CVD (e.g., heart failure and cardiac arrhythmias). Individual treatment goals should be reviewed and adjusted if necessary, and the indication and efficacy of drug therapy and adherence should be checked. Depending on the individual risk constellation, laboratory parameters should be tested at least once a year.[13]

Disease Management Programm aus Deutschland

umfasst z. B. Vereinbarung individueller Therapieziele bzgl. Blutdruck, Gewicht, Ernährung, …

In Germany, contracts for standardised DMPs for coronary heart disease between sickness funds and healthcare providers were introduced in 2004 [63, 64].

Study characteristics

We included 2 German DMP studies concerning coronary heart diseases [63, 64]. The empirical non-randomised controlled study, a cross-sectional postal survey, analysed 2,330 statutorily insured patients with acute myocardial infarction, whereof 27% were included in the DMP (mean age 67 years, 78% male). The study evaluated outcomes on health and health care services and assessed the selection of enrolment for these programmes [63]. The included cohort study is the official evaluation of the DMP, in which all existing routine data are evaluated. It analysed routine data from 1,828,075 patients from up to 13 years of DMP participation (mean age 68 years); more men participated in the DMP [64]. Participants' average enrolment time in the included studies was 1 [63] and 4 year(s), respectively [64]. The control group in the non-randomised controlled study received standard treatment [63].

2 Studien eingeschlossen: nicht-randomisierte kontrollierte Querschnittsstudie & Kohortenstudie (= offizieller Evaluationsbericht)

Effectiveness

Effectiveness outcomes of the controlled study were quality of life (measured by EQ-5D questionnaire), BMI, and healthcare services use (physician counselling for smoking, nutrition, and physical activity, and medication) [63]. The cohort study evaluated patients' data from health insurances, physicians, and inpatient facilities regarding mortality, myocardial infarction, stroke, angina pectoris, heart failure, and smoking rates [64].

Endpunkte: LQ, BMI, Mortalität, Herzinfarkt, Schlaganfall, …

The controlled study results showed that enrolled patients tended to be younger and had a higher disease burden. Participants of the DMP group reported a better quality of healthcare services. Statistically significant more DMP patients received medical counselling for smoking, nutrition and physical activity than standard care. No significant improvements in quality of life and BMI could be found, but a minor reduction in smoking. Prescriptions of medication were higher in the DMP group [63].

Qualität der Gesundheitsdienste verbessert, mehr Beratung, weniger Medikamente; nicht verbessert: LQ, BMI

[13] See 'Beschluss des Gemeinsamen Bundesausschusses (G-BA) 2019' https://www.g-ba.de/downloads/39-261-4042/2019-11-22_DMP-A-RL_Anlage-5-6-KHK_BAnz.pdf

Evaluationsbericht: keine Aussage über Wirksamkeit des DMP

The second included study on the German DMP for coronary heart disease is a routine data analysis of all patients participating in the DMP between 2004 and 2017 [64]. The entire report does not contain a single description or interpretation of the analysed data. The findings cannot give information regarding the effectiveness of the DMP due to lack of control group or pre-post analysis.

Hälfte der DMP-Teilnehmer*innen hörte zu rauchen auf

The proportion of patients who died in the years of DMP participation increased marginally. The proportion of patients with at least 1 episode of documented angina pectoris in the years of DMP participation decreased. Half of the DMP participants who smoked at baseline stopped smoking during the programme participation [64].

alle Fälle aus allen Kohorten ausgewertet

All cases from all cohorts were evaluated. Thus, the evaluated population decreased significantly over time: patients from 'old' cohorts dropped out, and 'new' cohorts only participated in the programme for a short time. Evaluations were conducted according to years of participation, except for angina pectoris (half-years of participation) [64].

kohortenübergreifende Analysen auf Basis von Teilnahmehalbjahren

Since a large possible number of measurement points is needed for event-time analyses, analyses were carried out across cohorts based on participation half-years, i.e., each half-year represented a measurement time point. All patients were evaluated for whom the respective event, e.g., stroke, had not yet occurred at the time of programme entry or was not documented in the initial documentation. The cumulative rate of event-free time of myocardial infarction, stroke and heart failure decreased slightly [64].

Implementation

keine Endpunkte zur Implementierung

No implementation outcomes were mentioned in the included studies regarding German CVD DMP.

North Karelia (Finland)

Intervention

Ziel: Bevölkerung zu gesünderer Lebensweise ermutigen durch Gesundheitsförderung/-politik

The Finlandia province North Karelia had the highest CVD incidence worldwide. The project's goal was to prevent CVDs and reduce mortality and morbidity rates through health promotion and policies. The programme aimed at encouraging a population change toward healthier lifestyles, focussing on 3 main CVD risk factors (i.e., smoking, elevated total serum cholesterol and blood pressure levels). The intervention in a community primary care setting was carried out for 5 years (1972-1977) as a pilot for all of Finland. Different community sectors planned, catalysed, and evaluated the work [65-67].

kommunales Präventionsprogramm

The community-based CVD prevention programme forced behavioural changes through community action and participation supported by screening high-risk individuals and medical treatment, and systematic population-based risk factor monitoring. The risk factor surveys have been conducted every 5 years involving, e.g. nurses and physicians [65-67].

Aktivitäten: Schulprogramme, Ernährungs-/ Rauchberatung, Bewegungs programme, Medienarbeit, Tabakgesetz, …

Further examples of activities were: school-based programmes with different approaches, diet advice and recommendations to the population spread through various channels, training seminars for healthcare workers and the general public, regular blood pressure measurements, a Salt Project including health education tools and training of personnel and environmental changes, cooperation with the food industry, health education leaflets and posters, mass meet-

ings, smoking cessation model (e.g., Quit and Win competition), physical activity, and the tobacco control legislation which came into force in 1977 [84].

Ursprung in Nordkarelien, nach 5 Jahren nationale Fortsetzung

The province of North Karelia was the original target area, and after the initial 5-year period, the project was continued as a national demonstration. After 25 years, the project was formally ended, but national preventive activities continued. The strategies have been reproduced using a similar design in numerous (inter)national strategy documents, e.g., WHO Global Action Plan on Prevention and Control of Non-communicable Diseases for 2013 to 2020 [65-67].

Study characteristics

3 Studien eingeschlossen: kontrollierte Studie (15-Jahres-Trends) & 2 Übersichtsarbeiten

We included 3 studies that evaluated the North Karelia prevention programme [65-67]. The study population was the general public from 30 to 59 years. An article comparing 4 independent cross-sectional surveys in randomly selected population samples (n=30,118) between 1972 and 1987 has been carried out to describe 15-year CVD risk factor clustering trends and to assess the degree to which high levels of risk factors are clustering in the same individuals. The population surveys were carried out in North Karelia and the neighbouring province Kuopio, serving as a reference area [65]. A review (n=34,525) involves 9 independent surveys of cross-sectional population samples from 1972 to 2012 (National FINRISK study) [66], whereas another gives main reasons for success and discusses the transferability to other countries [67].

Effectiveness

Endpunkte: Blutdruck, Cholesterin & Rauchen verbessert

Effectiveness outcomes were blood pressure, serum cholesterol, and smoking status [65, 66]. The proportion of men and women with no risk factors increased significantly, and the proportion with 2 or 3 risk factors decreased significantly in North Karelia *and* the control area Kuopio Province from 1972 to 1987. The decreasing trend in risk factors was steeper in North Karelia compared to Kuopio Province from 1972 to 1977 (i.e., during the initial intervention), but no difference in the decreasing trend between the 2 areas could be observed from 1977 to 1987 [65].

Sterblichkeit durch koronare Herzkrankheiten ging von 1972-2012 um 80 % zurück

From 1972 to 2012, coronary heart disease mortality decreased by more than 80% in men and women. Furthermore, smoking prevalence improved in men but not in women. Serum total cholesterol and systolic blood pressure decreased in males and females between 1972 and 2012 [66]. The North Karelia project caused changes in target risk factors, and a large gap between North Karelia and all of Finland disappeared in the 2000s [67].

Implementation

nationale Anlaufstelle, Monitoring, Feedback & internationale Zusammenarbeit erforderlich

The project continued as a national demonstration and promoted and stimulated national preventive work in Finland. A national focal point was necessary for the implementation process and sustainability, i.e., transferring to a national level (National Public Health Institute) due to its official institutional base and authoritative support. For a comprehensive evaluation, monitoring and feedback of, e.g. trends to the population and stakeholders were crucial. The main principle was to combine strong leadership with broad collaboration and links with international and global work as worldwide risk factors are similar and many of their determinants are global. Social change was observed as the fundamental issue; therefore, the project focused on influencing decision-making for policies and the private sector [67].

Gründe für Erfolg: theoretische Grundlage, flexible & intensive Intervention, Einbeziehung der Bevölkerung (Empowerment), gemeinschaftliche Organisation, unterstützende Zusammenarbeit, offizielle Behörde, klare Ziele/Ergebnisse, positive Botschaften, Bottom-up & Top-down Modell, Medienarbeit

The main reasons for success were

- an appropriate theory base, e.g., correct public health understanding of the problem, epidemiological considerations, and a community-based approach
- flexible intervention, e.g., responding to practical situations and naturally occurring possibilities in the community
- intensive intervention, e.g., activities that reached many people in their everyday lives
- working with people, e.g., involving local people and sending the message that reduction of the cardiovascular burden can only be made by themselves
- a community organisation, e.g., individual behaviours tended to follow community's lifestyle patterns
- work with supportive health services as a backbone to local activities
- official authority, e.g., link to official structures and health authorities (national guidelines)
- limited targets and clear outcomes
- positive messages to people about positive changes
- a bottom-up and top-down model
- working with the media as a key element in working with the population [67].

Transfer in andere Länder individuell

Study authors concluded that for transferring the North Karelia project to other countries, every country has to find its way in specific cultural, social, administrative and political situations.

3.2.3 Chronic respiratory diseases

2 Programme ausgewählt

For chronic respiratory diseases, 2 different programmes were included for further analysis: The Swiss programme 'Living well with COPD' and the German DMP on COPD.

Living well with COPD (Switzerland)

Intervention

Ziele: besserer Umgang mit Krankheit, LQ verbessern

This programme is aimed at helping patients cope better with their disease and improving health-related quality of life. Patients' behaviour changes should avoid moderate and severe exacerbations [68, 69].

Selbstmanagement-programm: Gruppenkurse & Einzelberatung → Wissensvermittlung z. B. Atemtechniken, gesunder Lebensstil

'Living well with COPD' is a 6-week self-management programme in a primary care setting consisting of 6 group modules à 90 minutes (e.g., preventing/controlling symptoms, breathing/coughing techniques, healthy lifestyle). Patients should gain knowledge and skills from coaches, physicians, pulmonologists, physiotherapists and programme managers and be motivated and confident to use the skills learnt. Individual one-on-one sessions with coaches and pulmonologists were offered to assess individual needs, goals, barriers and personal views and emotions [68, 69].

Study characteristics

2 studies were included which evaluated the Swiss COPD programme [68, 69]. A pre-post analysis of patient data assessed the programme's effectiveness. The process evaluation used qualitative and quantitative methods. The trial aimed to assess the nationwide implementation of the 'Living well with COPD' programme in various cantons in Switzerland. Originally, the programme is from Canada. The study population were, next to patients with a physician-diagnosed COPD (mean age 69 years, 53% male, n=94 analysed patients), care providers, e.g., coaches and pulmonologists. Follow-up was 14 months after baseline [68].

2 Studien eingeschlossen:

Vorher-Nachhher-Analyse bewertete Effektivität des Programms

A prospectively planned, non-randomised controlled study aimed to compare COPD patients, who participated in the 'Living well with COPD' self-management intervention (n=71, mean age 69), with usual care patients (n=396, mean age 67). Behaviour change and disease-specific health-related quality of life after 1 year were assessed. Patients over 40 years were enrolled with a (current or past) smoking habit, a confirmed diagnosis of COPD, and a defined ratio in spirometry. Follow-up was 24 months after baseline testing [69].

prospektive nicht-randomisierte kontrollierte Studie bewertete Verhaltensänderungen & LQ

Effectiveness

Effectiveness outcome measurements were the Chronic Respiratory Disease Questionnaire measuring health-related quality of life [68, 69], the modified Medical Research Council assessing dyspnoea's severity, and the COPD Assessment Test™ recording the impact of COPD on well-being and daily life. Confidence in COPD self-management was measured by a questionnaire and functional exercise capacity by the 1-minute sit-to-stand test. Furthermore, the number of inpatient treatments and outpatient consultations, the number of event-based COPD exacerbations, and the smoking status were assessed [68]. Self-reported exacerbations were documented. Smoking cessation rates and self-efficacy were measured by an adapted Self-Efficacy for Managing Chronic Disease Scale [69].

Endpunkte: LQ, Wohlbefinden, Selbstmanagement, funktionelle Belastbarkeit, Behandlungsanzahl, Exazerbationen, Raucherstatus

The pre-post analysis showed that health-related quality of life concerning dyspnoea, emotional function, and mastery statistically significantly improved after the intervention, but not fatigue. Furthermore, functional exercise capacity and confidence in COPD self-management (inhalation, worsening of symptoms, consult a physician/pulmonologist) improved and outpatient medical treatments statistically significantly reduced. Dyspnoea's severity did not ease; the impact of COPD on well-being and daily life and some items of the confidence in COPD self-management questionnaire (pulmonary medication, physical activity, emergency medication according to action plan) did not enhance due to the programme. Furthermore, the outcomes COPD exacerbations, inpatient medical treatments, days in hospital due to COPD, and the current smoking rate did not significantly improve [68].

Vorher-Nachher-Analyse: LQ, funktionelle Belastbarkeit & Selbstmanagement verbessert; weniger ambulante Behandlungen; Wohlbefinden, Exazerbationen, stationäre Aufenthalte, Raucherrate nicht verbessert

The non-randomised controlled study revealed significant, clinically relevant treatment effects for all health-related quality of life subscales. Concerning self-efficacy for COPD behaviour, the study reported significant increases in patient confidence in performing the correct inhalation technique, recognising deterioration at an early stage, and using the action plan. Regular physical activity did not significantly improve after 2 years. The intervention group had fewer moderate to severe exacerbations over 2 years compared to the control group. A significant effect on smoking cessation could not be observed [69], and the involved persons showed high satisfaction with the programme's implementation [68, 69].

kontrollierte Studie: LQ, Exazerbationen & Selbstwirksamkeit verbessert; körperliche Aktivität & Rauchen nicht verbessert

nachhaltige Auswirkungen auf Gesundheit

According to the Swiss governmental health strategy, the programme is described to have lasting effects on patients' health (Gesundheitsförderung Schweiz, Strategie 2019–2024) [68].

Implementation

Endpunkte: Teilnahme, Akzeptanz, Einhaltung hinsichtlich Protokoll, Modulinhalte

The programme implementation process followed a 6-step approach. The process evaluation was based on the implementation outcomes 'dose', 'reach', 'fidelity' and 'acceptability'. The 'dose' was measured by the number of modules, their duration and the amount of delivered material. 'Reach' was assessed using the average patients' attendance rates at the group modules and percentages of follow-up calls. A checklist documented the 'fidelity', i.e., the degree to which the intervention was delivered according to the protocol, and 'acceptability' was measured by semi-structured interviews with the programme managers, patients and coaches [68].

hohe Teilnahme & Akzeptanz, Inhalte lt. Protokoll abgedeckt

Erfolg durch multidisziplinäres Team, regelmäßiger Patient*innenkontakt

Bedarf an Nachsorge

89% of eligible patients participated in the programme, and the attendance at group modules was 81% on average. Follow-up calls declined from the first to the 12th month from 97% to 89%. There were 13 groups of patients at 11 different locations of 7 Cantonal Lung Associations. The group modules had an average duration of 115 minutes, and 94% of topics were covered on average and across all modules. The acceptability of the involved professionals was very high and of the patients (very) good. The 'Living well with COPD' study can be seen as a guidance for implementation in other countries [68]. The programme was successful due to the multidisciplinary team and regular contact with patients, which empowered them and promoted safety. There is a need for regular proactive care and follow-ups [69]. The programme was successfully implemented in Switzerland [68, 69].

Disease management programme (Germany)

Intervention

Ziele: LQ, Lebenserwartung & Langzeitpflege verbessern, Selbstmanagement ermöglichen

In 2002, sickness funds implemented DMPs for chronic conditions – these DMPs aimed at modifying treatment pathways in accordance with evidence-based clinical guidelines. The goal is to enable patient self-management and improve the quality of long-term care for patients with asthma and COPD by optimising symptom control and preventing exacerbations. DMPs should increase patients' life expectancy and quality of life, increase the efficient use of health care resources and generate cost savings [70, 71].

freiweillige Teilnahme & finanzielle Incentives sowohl für Ärzt*innen als auch Patient*innen

Physicians can voluntarily enrol patients in DMPs and receive financial compensations for their participation. Patients with a secured diagnosis of certain chronic diseases can voluntarily participate in a DMP and may also benefit from financial incentives. Both physicians (supply side: regular visitations of DMP patients to receive supplementary payments) and patients (demand side: obligatory quarterly/biannual health check-ups) are incentivised for more intense healthcare utilisation in the outpatient sector [71].

involvierte Berufsgruppen: Allgemeinmediziner*innen, medizinische Fachangestellte, …

The duration of intervention was a minimum of 12 months in one study [70] and 3 years in the other trial [71] and was applied in primary care [70, 71]. The involved professional groups were physicians, GPs, and medical assistants [70, 71]. DMP participants were compared to standard care [71] or to non-DMP participants [70]. DMPs are implemented and evaluated in Germany [70, 71].

Study characteristics

We included 2 studies that evaluated the German DMP for COPD and asthma patients. A prospective multicentre cross-sectional study investigated whether disease control and impairment differ in DMP-participants and non-DMP-participants. The adult asthma (n=1,038; mean age of DMP participants 53, non-DMP 50 years; 66% female) and COPD (n=846; mean age of DMP and non-DMP participants 66 years; 41% female) patients were diagnosed at least one year before study participation, and 70% participated in the DMP programme. The last follow-up after baseline assessments was at 12 months [70].

2 Studien eingeschlossen:

prospektive multizentrische Querschnittsstudie

The second study, a non-experimental, retrospective population-based cohort study using administrative data, investigated the causal effects of DMP interventions in routine care. It further examined the effects of the German COPD DMP on health resource utilisation from a payer perspective, process quality, morbidity and mortality over 3 years. 215,104 adult COPD patients were involved, whereof 25,269 participated in the DMP (mean age 67 years, 55% females). The last follow-up after baseline assessment was at 3 years [71].

nicht-experimentelle, retrospektive Kohortenstudie

Effectiveness

Different questionnaires were applied as outcome measurements: the Asthma Control Test™, COPD Assessment Test assessing COPD symptoms, and the Mini Asthma Quality of Life Questionnaire and Chronic Respiratory Disease Questionnaire measured quality of life. Furthermore, Health Anxiety and Depression Scale, Fear Avoidance for COPD and Social support scales for illness were used in the prospective cross-sectional study [70].

Endpunkte: Symptome, LQ, Angst, Depression, soziale Unterstützung

In the retrospective cohort study, the mortality rate and prevalence of frequent comorbidities of COPD were assessed as well as the number of inpatient days, the average length of stay, and the proportion of hospitalised patients. Process quality was measured by the proportion of patients receiving COPD-specific treatment with beta-blockers and oral corticosteroids [71].

Endpunkte: Sterblichkeit, Komorbidität, Anzahl stationärer Tage, Prozessqualität

In asthma patients, disease control and quality of life improved; this difference was statistically significant but not clinically relevant. Furthermore, in the domain 'stressful' of the Social Support Scale, DMP participants reported less stressful interactions with people close to them than non-DMP participants. There were no significant differences between the intervention and control group regarding anxiety and depression, avoidance of anxiety, and social support (parameter 'supporting'). COPD patients did not statistically significantly improve in any of these parameters [70].

Querschnittsstudie: Asthma: LQ & Krankheitskontrolle verbessert; Angst & Depression nicht verbessert; COPD: keine Verbesserungen

The retrospective cohort study reported that the COPD DMP significantly improved mortality, morbidity, and process quality; however, this progress came at higher costs and healthcare utilisation compared to standard care. Morbidity outcomes concerning (non-)invasive ventilation, depressive episodes, medication-induced osteoporosis and all-cause mortality statistically significantly improved in the DMP participants compared to control group participants, but not regarding heart failure and cachexia. A reduction of 11% in 3-year mortality in the DMP group could be observed as well as an improvement in the adherence to medication guidelines [71].

retrospektive Studie: Mortalität, Morbidität & Prozessqualität verbessert

erhöhte Inanspruchnahme der Gesundheitsversorgung, jedoch kürzere Aufenthalte

During the DMP, healthcare utilisation was more intense in DMP participants with more outpatient physician visits, pharmaceutical prescriptions and hospitalisations. The average length of hospitalisation due to COPD fell by 0.5 days. Furthermore, the process quality statistically significantly improved for the DMP group. RCTs to evaluate the efficiency of Germany's COPD DMPs were not available, although they have been conducted in other countries [71].

Implementation

keine Endpunkte zur Implementierung

Both studies on the DMP for (asthma and) COPD did not assess any implementation outcomes.

3.2.4 Diabetes Type II

3 Programme ausgewählt

3 programmes dealing with type II diabetes identified from the national strategies were selected for further analysis: the German prevention programme GLICEMIA, the Finnish Diabetes Prevention Study and the German DMP for type II diabetes.

GLICEMIA (Germany)

Intervention

Ziele: Diabetesprävention, Unterstützung bei Lebensstiländerung

Inhalte: Informationen zu Risikofaktoren, Beratung durch Pharmazeut*in, Gruppenvorträge, …

Setting: Apotheke

The intervention aimed to prevent type II diabetes and support people with an increased risk in their changes of lifestyle. The GLICEMIA programme participants received written information about a healthy diet and physical activity and had 3 individual counselling sessions with a trained pharmacist. These sessions included discussing diet and physical activity, agreeing on individual goals and monitoring goal attainment. Additionally, participants of the intervention group could attend 5 group-based lectures (lasting 75-90 minutes) covering the following topics: diabetes and risk factors, healthy diet for diabetes prevention, physical activity, psychological aspects of behaviour change, and maintenance of a healthy lifestyle. Self-monitoring tools to support lifestyle changes (such as pedometer, exercise diary, food pyramid) were also offered to participants. The duration of the intervention was 12 months, and the programme took place in community pharmacies [72, 73].

Kontrollgruppe: keine Einzel- oder Gruppenberatung

The control group also received written information about diet and physical activity. Control group participants completed an assessment of their health status and received information at baseline and after 6 and 12 months, but had no further individual or group counselling [72, 73].

Study characteristics

2 Artikel eingeschlossen: Cluster-RCT zur Bewertung der Wirksamkeit des Präventionsprogramms in Apotheken

We included 2 publications from Schmiedel et al. [72, 73], reporting outcomes of a cluster-RCT evaluating the efficacy of the German diabetes prevention programme GLICEMIA, which was conducted in community pharmacies. The trial included adults older than 35 years with an increased risk of diabetes according to the Finnish Diabetes Risk Score (FINDRISC). 1,140 participants were included, of which data from 1,092 [72] and 1,087 participants [73] could be analysed, respectively. The dropout rate was 13%. The participants were on average 57.5 years old, and 68% were female. The last follow-up after baseline assessment was at 12 months.

Effectiveness

Changes in diabetes risk were measured using the FINDRISC score, a validated questionnaire involving 8 diabetes risk factors (age, family history of diabetes, waist circumference, physical activity, fibre intake, history of hypertension and hyperglycaemia, BMI) and predicting the 10-year risk of diabetes. Further assessments included weight change and measurement of blood pressure. Physical and mental health-related quality of life was assessed using the 12-item Short Form Health Survey (SF-12). Additionally, a self-developed demographic and behaviour questionnaire (assessing, e.g., physical activity) and a feedback questionnaire (evaluating satisfaction with intervention and care, perceived benefit and subjective health status) were administered [72, 73].

Endpunkte: Diabetesrisiko, Gewicht, Blutdruck, physische/psychische LQ, Verhalten, Zufriedenheit/Nutzen

The results showed a significant effect of the intervention for the primary endpoint, which was the mean change of the FINDRISC after 1 year. This effect was statistically significant, but further research is needed to assess the clinical relevance. 39% of the intervention group and 21% of the control group reduced their diabetes risk according to FINDRISC. Participants of the intervention group also had better results regarding weight loss and physical activity, but no difference was found for blood pressure [72].

Diabetesrisiko verbessert; Gewichtsreduktion & mehr Bewegung; Blutdruck nicht verbessert

Concerning quality of life, the physical quality of life improved significantly more among intervention group participants, but no difference was found for mental quality of life. A subgroup analysis showed that those participants of GLICEMA, who were able to reduce their diabetes risk, had a better mental and physical quality of life after 1 year. More participants in the intervention group than in the control group reported that their health status had improved or partly improved. This group difference was statistically significant. The perceived overall benefit was also rated significantly higher by participants in the intervention group. Intervention group participants were more satisfied with care than control group participants in most items (e.g., opportunity to ask questions, questions were answered completely, the content of the documents, and the discussions were understandable) [73].

Gesundheitszustand & körperliche LQ verbessert, jedoch nicht psychische LQ; Zufriedenheit mit Intervention/Betreuung

Implementation

Study participants were asked to give general feedback using a feedback questionnaire. On average, participants of the intervention group attended 4 of the 5 offered group lectures. The pedometer as a motivational tool was particularly often positively mentioned in the intervention group. At the same time, the participants would have liked more information and support in changing their diet [73]. The study authors concluded that it was feasible to carry out the programme GLICEMIA in community pharmacies [72].

Gruppenvorträge gut besucht; Schrittzähler als Motivation; mehr Informationen/ Unterstützung erwünscht

Finnish Diabetes Prevention Study

Intervention

The lifestyle intervention aimed to provide participants with the necessary knowledge and skills to achieve gradual, permanent behaviour changes. The main goals of the intervention were weight reduction ≥5%, moderate-intensity physical activity ≥30 min/day (or min. 4 hours/week), dietary fat <30 proportion of total energy (E%), saturated fat <10 E%, and fibre ≥15 g/1,000 kcal [76, 77].

Ziel: Kenntnisse & Fähigkeiten zu Verhaltensänderungen

Inhalte: individuelle Ernährungsberatung inkl. -protokoll, Expert*innenvorträge, Kochkurse, Bewegungsangebote, …

The dietary intervention involved 7 face-to-face consultation sessions (lasting 30 minutes to 1 hour) with the study nutritionist during the first year (at weeks 0, 1-2, and 5-6, and at months 3, 4, 6, and 9) and every 3 months thereafter. The first-year sessions had pre-planned topics (e.g., diabetes risk factors, saturated fat, fibre, physical activity, problem-solving), but the discussions were individualised, focusing on specific individual problems. Additionally, participants could voluntarily take part in group sessions, expert lectures, low-fat cooking lessons, and visits to local supermarkets, and had between-visit phone calls and letters. The dietary advice was based on 3-day food records that were completed 4 times yearly. The exercise intervention was based on individual guidance by the nutritionist during the counselling sessions and the study physician at the annual visits to increase the overall level of physical activity. Supervised, progressive, individually tailored circuit-type moderate-intensity resistance training sessions, as well as voluntary group walking and hiking, were also offered [76].

involvierte Berufsgruppen: Physiotherapeut*innen, Krankenpfleger*innen, Ernährungsberater*innen, …

The intervention took place in primary health care and involved physicians, study nurses, nutritionists, exercise instructors and physiotherapists. The intervention was most intensive during the first year, followed by a maintenance period. The control group received general information about lifestyle and diabetes risk (individually or in a group session) and was offered printed material but had no individualised counselling [76, 77].

Study characteristics

2 Artikel eingeschlossen: RCT zur Wirksamkeit des Programms auf Ernährungs-/Bewegungsverhalten & Diabetesrisiko

We selected 2 publications [76, 77] reporting results from an RCT that assessed the efficacy of the lifestyle intervention applied in the Finnish Diabetes Prevention Study on short- and long-term changes in diet and exercise behaviour and diabetes risk. The RCT included 522 adults aged 40-64 years with overweight (BMI > 25 kg/m^2) and impaired glucose tolerance. Mean age of participants was 55 years at baseline, and ⅔were female. 1 publication presented results from the 3-year follow-up [76]. The other publication [77] included results of those participants who were still free of diabetes after the active intervention (median of 4 years) and willing to continue their participation until diabetes diagnosis, dropout or 2009. Median total follow-up of these 366 participants was 9 years.

Effectiveness

Endpunkte: Glukosetoleranz, körperliche Aktivität, Ernährungsverhalten

All study participants had an annual oral glucose tolerance test (OGTT), a medical history, and a physical examination in which height, weight and waist circumference were measured. Nutrient intakes were calculated based on 3-day food records that the study participants completed at baseline and before every annual examination. Physical activity was assessed using the validated Kuopio Ischaemic Heart Disease Risk Factor Study 12-month Leisure-Time Physical Activity (LTPA) questionnaire [76].

körperliche Aktivität & Ernährungsverhalten verbessert, Gewichtsreduktion, weniger Diabetesdiagnosen

The specific main goals of the intervention (concerning weight reduction, physical activity, dietary and saturated fat and fibre intake) were more often reached by the intervention group than the control group subjects. These differences were statistically significant. Mean weight reduction was higher among intervention group participants after 1 year and also after 3 years; however, some regain of weight appeared after the first year of intensive intervention. There was no significant group difference regarding total reported time spent physically active, but moderate-to-vigorous LTPA increased in the intervention group compared to the control group after 1 and 3 years.

During the first 3 years, 9% of intervention group participants and 20% of control group participants were diagnosed with diabetes, a statistically significant group difference [76].

After a median of 9 years follow-up, 40% of the intervention group and 54% of the control group received a diabetes diagnosis; the Hazard Ratio was 0.6 (statistically significant). Among those who developed diabetes, the median time to diabetes onset was 10 years in the control group and 15 years in the intervention group. Intervention group participants showed more moderate-to-vigorous physical activity, more dietary changes (e.g., reduction of total energy and saturated fat, increase of fibre density) and lower body weight compared to the control group after the total follow-up. Study authors concluded that a lifestyle intervention aiming at weight reduction, healthy diet and increased physical activity in high-risk individuals has a long-lasting effect in preventing type II diabetes [77].

dauerhafte Wirkung: weniger Diabetesdiagnosen, gesteigerte körperliche Aktivität, Ernährungsumstellungen, Gewichtsreduzierung

Implementation

No specific implementation results were reported in the 2 included publications. Study authors concluded that a lifestyle intervention such as the one described in the Finnish Diabetes Prevention Study is practical and can be implemented in primary health care [76].

keine Implementierungs-Endpunkte

Disease Management Programme (Germany)

Intervention

The general aims of the DMP include improving the quality of health care and treatment process, providing better care for chronically ill people and reducing secondary diseases, medication errors, hospital admissions and emergency admissions [74, 75].

Ziele: Gesundheitsversorgung/ Behandlungsprozesse verbessern, …

DMPs establish standards for diagnosis, treatment, documentation, quality assurance and referral and require active patient participation. Patients are treated according to evidence-based guidelines and attend quarterly or half-yearly check-ups at their GPs, depending on symptom severity and overall health status. A centralised reminder system for patients and GP practices ensures that these regular consultations are not missed. Check-ups include a physical examination (vital parameters, foot examination), HbA1c, presence of albuminuria, medical history, medication, patient education for diabetes and hypertension, patient-specific HbA1c target agreement, documentation of hospitalisation, and referrals to diabetologists. Additionally, quality improvement measures were introduced, e.g., half-yearly feedback reports to all participating GPs to benchmark their performance in agreed quality indicators as well as diabetes-specific medical educations that GPs have to attend at least once every 3 years [85].

Standards für Diagnose, Behandlung, Dokumentation, Qualitätssicherung & Überweisung

Kontrolluntersuchungen bei Allgemeinmediziner*in

Maßnahmen zur Qualitätsverbesserung

The setting of the intervention was primary care, involving GPs and diabetologists. Control group participants received standard care [74, 75].

Study characteristics

We included 2 publications concerning the German DMP for type II diabetes. The systematic literature review from Fuchs et al. (2014) [74] aimed to synthesis the available controlled studies evaluating the effectiveness of DMPs concerning diabetes type II in Germany. 16 publications on 9 studies were included in the review. Numbers of included patients ranged from 85 to

2 Studien eingeschlossen: systematische Literaturübersicht zur Wirksamkeit des Programmes

84,410 patients in the DMP groups and from 64 to 78,137 patients in the control groups. Mean age of study participants was between 63 and 71 years, and 40 to 65% of patients were male. The observation period in the included studies ranged from 2 months to 5 years.

retrospektive Analyse von Patient*innendaten zu Auswirkungen des DMP auf HbA1c Werte

The second publication is a retrospective study based on patient data from the Disease Analyzer Panel with a control group created using 2:1 propensity score matching. The study aimed to measure the effect of the German DMP for type II diabetes on HbA1c value. Data from 14,759 patients were included, of which 5,875 participated in the DMP, and 8,884 received standard care. Mean age was 65 years in both groups. 49% of participants were female [75].

Effectiveness

Endpunkte: Mortalität, Morbidität, LQ, Prozessparameter, Blutwerte

As for effectiveness outcomes, the systematic review reported mortality and morbidity, quality of life (measured by SF-36 and EQ-5D) and process parameters such as diagnostic measures, examinations, medication, counselling and doctor contacts [74]. Primary outcome of the retrospective study was a reduction of HbA1c value. Additionally, subgroup analyses were conducted [75].

systematischer Review: Sterblichkeit, Cholesterin, Prozessparameter & Versorgung verbessert; Morbidität & LQ unklar

The systematic review reported positive effects for the endpoints mortality (investigated in 3 publications based on 2 studies) and survival time (investigated in 2 publications based on 1 study) for the DMP groups compared to routine care. The findings for morbidity and quality of life were unclear, and no general conclusions can be made. A clear positive effect in a DMP group can only be seen (in 1 study each) for cholesterol level, satisfaction with health and satisfaction with diabetes care. Regarding process parameters, 5 publications reported clear positive effects for DMP groups, e.g., regarding participation in diabetes education [74].

retrospektive Analyse: geringfügige Verbesserung der HbA1c Werte

The retrospective analysis of patient data showed a mean reduction of HBA1c value of 1 percentage point in the DMP groups, whereas mean reduction in the standard care groups was 0.9 percentage points. The DMP effect of 0.1 percentage point was statistically significant, but authors stated that the clinical relevance remains unclear. Subgroup analyses demonstrated a higher reduction of HbA1c value for patients treated by a diabetologist compared to GP treatment. The DMP effect was also higher for patients in the age group 40-50 years and for high-risk patients with an HbA1c baseline value of ≥ 8% [75].

Langzeitevaluationen erforderlich

Long-term evaluations are needed, and controlled observational studies are currently the best available option for evaluating DMPs, as RCTs are no longer possible because of the nationwide roll-out of the DMPs [74].

Implementation

keine Implementierungs-Outcomes

Both publications did not provide any specific information on implementation.

3.2.5 Mental health

2 Programme ausgewählt

From the specific mental health interventions identified in the national strategies, the Canadian Stepped Care 2.0 project and the Mental Health First Aid (MHFA) programme were selected for more detailed analysis.

Stepped Care 2.0 (Canada)

Intervention

This disease management intervention aims to improve access to publicly funded mental health services and empower clients to maximise and manage their wellness. The demonstration project includes e-mental health programming, recovery-oriented practice, rapid access single-session therapy, and stepped care principles. It is an evidence-based, client-centred stage system of care that prioritises the most effective and least intensive treatment (i.e., online self-help, peer support, counselling groups, specialist care). Stepped Care 2.0 in a clinical and community setting (online) includes 9 steps:

Ziele: Zugang zu psychosozialen Diensten verbessern, Wohlbefinden maximieren

- online self-help (Steps 1 and 2);
- peer support (Step 3);
- drop-in seminars and workshops (Step 4);
- blended in-person/online provider-assisted programs (Step 5);
- structured and unstructured counselling groups (Step 6);
- one-on-one sessions (Step 7);
- specialist care, e.g., psychiatric consults or residential treatment (Step 8);
- acute care and case management (Step 9) [80].

Stufensystem von Online-Selbsthilfe über Peer-Unterstützung zu fachärztlicher Betreuung

Social workers, psychologists, nurses, medical doctors, and occupational therapists are involved in the programme implemented, adopted and evaluated in several provinces across Canada [80].

verschiedene Berufsgruppen involviert

Study characteristics

The study from Cornish et al. 2019 concerning Stepped Care 2.0, originally from the United Kingdom, was conducted in Canada [80]. This mixed-methods single-arm evaluation includes 212 adult clients and health care providers (n=132 baseline survey; n=32 post-implementation questionnaire). 100 providers did not respond to the post-implementation questionnaire due to, e.g., length of the survey or lack of dedicated time to complete the survey. Furthermore, baseline surveys were conducted during in-person training workshops, while post-implementation surveys were emailed. The project lasted 18 months [80].

1 Studie eingeschlossen:

einarmige Mixed-Methods-Evaluation

Effectiveness

Effectiveness outcomes were evaluated using provider questionnaires and client satisfaction surveys measuring comfort with technology, services accessed, and subjective ratings of satisfaction and perceived benefit. Furthermore, a community stakeholder and provider focus group assessed experiences with the mental health system and programme [80].

Endpunkte: Wirksamkeit, Zufriedenheit, Nutzen, …

Stepped Care 2.0 helped to engage stakeholders in their efforts to improve access and reduce wait times. Growing use and generally positive experiences were stated. There was a high client satisfaction and even higher programme provider satisfaction. After the intervention, provider readiness and enthusiasm for the programme was greater than before [80].

kürzere Wartezeiten, positive Erfahrungen, zunehmende Nutzung

After implementation, *providers* and *managers* stated that stakeholders embraced Stepped Care 2.0, and respondents felt optimistic about the intervention. The client-centric programme promotes the client's autonomy, empowerment and responsibility. It was described as evidence-based, effective, and helping practices to evolve [80].

gute Programmannahme, Autonomie & Verantwortung der Klient*nnen

Zufriedenheit mit Programm & hilfreich bei Problembewältigung

Clients ranked the so-called app 'Bridge the gApp' best. 59% used high-intensity services (steps 6-10), 41% lower intensities (steps 1-5), and 106 clients used step 7 services, i.e., counselling. ⅔ of the clients rated the quality of tools as good or excellent. For 79%, the tools met their needs and Stepped Care 2.0 helped deal with their problems (62%). The *community stakeholder and provider focus group* stated a reduction of service wait time by 68% [80].

Implementation

Implementations-Outcomes

Implementation outcomes were measured by provider questionnaires and a community stakeholder and provider focus group measuring experiences with the mental health system and programme [80].

Selbstwirksamkeit, Motivation & Programmkenntnisse verbessert

mehr Ressourcen, Unterstützung & Schulungen notwendig

After programme implementation, all *providers* and *managers* received training for about 7.5 hours. Outcomes with statistically significant improvement for providers were programme knowledge and self-efficacy, stage of change, controlled motivation, and comfort with Bridge the gApp. Managers significantly improved programme knowledge, stage of change, and comfort with Bridge the gApp. More resources, support and training are needed for the full implementation of Stepped Care 2.0. The *community stakeholder and provider focus group* recognised that there is not enough implementation science (e.g., technology, marketing) yet to improve e-mental health tools and the stepped care model [80].

5 Umsetzungsschritte: Projektplanung, Teamentwicklung; Genehmigungen, Evaluationsdesign, Schulungsressourcen; Schulungen; Einführung von Tools; Datenerhebung, Analyse

The implementation procedure is described following these 5 steps:

- Project planning and team development
- Approvals, evaluation design, and training resource preparation
- Baseline provider assessment and training
- Launch of e-mental health tools, practice development, and support
- Post-implementation data collection and preliminary analysis

Stepped Care 2.0 seems to be a promising model for integrating e-mental health interventions, recovery principles, and single session rapid access counselling with traditional or established in-person programming on a provincial scale [80].

Mental Health First Aid (Australia)

Intervention

Ziel: Wissen an Bevölkerung vermitteln, um psychisch belasteten Menschen zu helfen

Mental Health First Aid (MHFA) aims to improve mental health literacy and provide skills and knowledge to help people manage mental health problems. Furthermore, the programme empowers the general public to approach, support and refer individuals in distress, improving attitudes and stimulating helping behaviours [78, 79].

Ausbildungskurse für die Bevölkerung

These 2-day standardised educational courses (12 hours) are open to the general public and teach people how to recognise signs and symptoms of mental health problems, provide initial help, and guide them towards professional help [78, 79]. The programme is defined as *"the help provided to a person developing a mental health problem or in a mental health crisis. The first aid is given until appropriate professional treatment is received or until the crisis resolves [79]."*

standardisierte Inhalte: Risikofaktoren, Symptome, Aktionsplan, …

The course contents include the risk factors and symptoms in depressive, anxiety, psychotic and substance use disorders and associated mental health crises situations. The programme and all included materials are standardised, and the first aider's manual is complemented by instructor guidelines, Pow-

erPoint slides and exercises. The action plan ALGEE, i.e., steps that should be used in first aid, stands for Assess Risk of Suicide or Harm, Listen Non-judgmentally, Give Reassurance and Information, Encourage Person to Get Appropriate Professional Help, and Encourage Self-help Strategies [78, 79].

Kurse von Ausbildner*innen and Instruktor*innen, welche Bevölkerung ausbilden

Mental Health First Aid instructors lead the courses. These are individuals with pedagogical skills, personal or professional experience with people with mental health problems and trained in a 5-day course to become Mental Health First Aid instructors. Then the newly qualified instructors deliver a 2-day course open to the general public or specific groups, e.g., teachers or healthcare workers [78, 79].

verschiedene Settings

The intervention has been carried out in several different settings, e.g., courses open to the public, among students or employees, in special communities (such as non-English speaking communities) and in rural areas [78, 79].

Study characteristics

2 Studien eingeschlossen:

Meta-Analyse untersucht Auswirkungen & Potenzial des Programms

The Mental Health First Aid programme is originally from Australia but has already been implemented, adopted, and evaluated in 22 countries. A meta-analysis from Sweden [78] (incl. 15 articles: 12 Australian, 1 Canadian, 2 Swedish) synthesises published evaluations of the programme to estimate its effects and potential as a public mental health awareness-increasing strategy. The general public was involved, but also more specific populations, e.g., students, teachers, government departments, or multicultural organisations. A total number of 3,376 people among the included 15 studies (range: 23-753 individuals in the 15 trials) was included with mostly female participants. 5 studies had a long-term FU of 6 months after course completion; 8 studies between 6 weeks and 6 months, and 2 had no FU [78].

narrative Beschreibung

The second included study is a narrative description of the programme's development and evaluation, cultural adaptation, and the roll-out and dissemination in 7 countries [79].

Effectiveness

Meta-Analyse: Gesundheitskompetenz, Einstellungen & Hilfsverhalten verbessert

Effectiveness outcomes were evaluated by 2 questionnaires measuring knowledge, a social distance scale assessing attitudes, and different items, e.g., number of times when help had been provided measured helping behaviours. The meta-analysis showed that all 3 outcomes, change in knowledge, attitudes, and helping behaviours, statistically significantly improved after the intervention [78].

narrative Studie: Erkennung psych. Erkrankungen, soziale Distanz & Hilfeleistung verbessert

The second study, which is a narrative description mentioning several studies with different study designs, reports that MHFA improved the recognition of mental disorders, positively changed beliefs about the treatment, decreased social distance from people with mental disorders, increased confidence in providing help and the amount of help provided to others [79].

Implementation

in Australien implementiert

The Mental Health First Aid programme was developed in Australia in 2001, and in 2005 every state and territory had its instructors. In 2007, a youth manual and course was designed with additional modules on deliberate self-harm and eating disorders to train adults to assist adolescents better. In the same year, there were already 600 instructors, 20 Youth instructors, 7 trainers of instructors, and 55,000 people trained as mental health first aiders [79].

anfänglich im ländlichen Raum

E-Learning-Version

Unterstützung für Ausbildner*innen

Initially, the intervention was more often applied in rural areas. A decentralised model for dissemination was used: The training programme trains instructors who then deliver courses under the auspices of local organisations and arrange the funding. Furthermore, a website for dissemination was created. The programme was adapted for Aboriginal and Torres Strait Islander peoples and non-English speaking immigrant groups. An e-learning version for, e.g., people in remote areas or shift workers was implemented. Guidelines were developed using Delphi consensus studies for, e.g. depression and psychosis first aid. Instructors received ongoing support, including an annual 2-day instructor conference, expert help if needed and regular newsletters [79].

staatlich finanziert; Verbreitung auch in wissenschaftlichen Fachzeitschriften

Erfolgsfaktoren: Akzeptanz in Öffentlichkeit, Schulungsnachfrage, Bedarf an psychosozialen Diensten, evidenzbasiertes Programm & evaluierte Effekte

Mental Health First Aid was initially supported by government funding. Its spread was assisted by formal evaluation and publication in peer-reviewed journals, which shows the programme's credibility and makes funding more accessible. The reasons for success were

- that the public relates to and accepts the concept and plays a useful initial role;
- the demand for training due to the high prevalence of mental disorders and people want to know how to respond with initial help;
- an existing unmet need for mental health services;
- the programme's content is evidence-based, and effects were rigorously evaluated [79].

The meta-analysis concludes that the programme is recommendable for public health actions [78].

3.2.6 Various diseases

2 Programme ausgewählt für verschiedene Krankheiten

In the course of our research, we identified not only interventions focusing on one specific disease but also programmes addressing the prevention and/or management of NCDs in general in the frame of integrated management. 2 programmes were selected for further analysis: Girasole and 'Making every contact count' (MECC).

Girasole (Switzerland)

Intervention

Ziele: Verhaltensänderung, Risikofaktoren verringern

The prevention programme aimed to reduce risk factors for NCDs and to promote physical activity. The intervention consisted of coaching for health-related behavioural changes by GPs supported by physical activity recommendations. The coaching included 4 steps:

Coaching (Ärzt*in – Patient*in): Verhaltensänderung mit Zielerreichung

- physicians made patients aware of the need for behavioural change;
- the patient and GP selected areas for behavioural changes and talked about his/her motivation;
- the patient planned his/her health project incl. concrete goals and measures;
- the physician and patient reviewed the implementation and goal achievement;

3 Tätigkeitsbereiche

This real-world framework covered 3 areas of activity: education for GPs, interventions in GPs' practices, and the support of GPs. The pilot project in a primary care setting was implemented in some provinces in Switzerland [81].

Study characteristics

1 Studie eingeschlossen:

Evaluationsbericht mit Vorher-Nachher-Vergleich

Girasole is a Swiss pilot project and was part of the measures of the Swiss NCD strategy [32]. The included evaluation report, a pre-post comparison, aimed to obtain independent and scientific answers to key questions of the programme. Patients (40-75 years; n=181) with one or more risk factor(s) for NCDs and motivated to change their behaviour and GPs (⅔ female; n=19) were involved. 81 patients and 2 GPs dropped out of the programme [81].

Effectiveness

Endpunkte hinsichtlich Ärzt*innen & Patient*innen

Effectiveness outcome measurements were written before-and-after surveys with the GPs and patients and patient-specific data collected by the GPs. Outcomes included practitioners' changes of knowledge and skills, achievement of patients' goals, changes in health status, health behaviour and health literacy [81].

erworbene Kenntnisse/Fähigkeiten der Ärzt*innen, Zielerreichung der Patient*innen & Gesundheitszustand verbessert

jedoch (noch) wenig Belege für Wirksamkeit

Authors of the evaluation report concluded that there is (still) little evidence of efficacy available. The majority of GPs (n=16) stated positively about their acquired knowledge/skills. More than ⅔ of patients (n=90) reached their personal aims, and almost ⅓ improved their general health status [81].

¾ improved their psychological distress, and nearly 20% felt less restricted in their health. Half of all patients improved their BMI and increased their control over their lives. The programme positively affected their health-related behaviour. More than half of the patients reduced their sitting time, and almost half consumed more vegetables and fruits. ⅓ moved more often after the intervention, and more than 20% reduced their habitual alcohol consumption. 10% improved their higher-risk alcohol consumption, and 6 patients became non-smokers. The coaching had no effects on health literacy [81].

Implementation

Endpunkte: Teilnahme & Akzeptanz

A document analysis, participatory observation, and group and individual interviews were used as implementation outcome measurements assessing the reach of GPs and patients and their acceptance of the programme [81].

Fortbildungen für Ärzt*innen, Umsetzung in Praxis

GPs were selectively reached. 19 practitioners visited the educational training, whereof data of 17 were evaluated. All of these practitioners implemented the coaching intervention in their practice after the training, but half of them could (rather) not implement the intervention within their consultation hours. More than half of all patients finished the coaching [81].

gute Bewertung hinsichtlich Annahme, Zufriedenheit & Nutzen

Bedarf an weiteren Schulungen & inkompatibel mit Arbeitsschwerpunkt

The GPs and patients well accepted Girasole. All GPs were very satisfied and rated the programme's benefit as very high; even so, they mentioned a need for further training (e.g., motivational conversation). The provided materials were rated as useful, and more than half of the practitioners worked with them. Also, the exchange meetings were beneficial, even if the workload was considered high. The practitioners rated the intervention approach as positive, i.e., implementable, structured, flexible, legitimate, satisfying, and fruitful. Nevertheless, also negative aspects were mentioned, such as that the programme was restrictive, risky, unrealistic and incompatible with their focus of work, which was seen particularly in the curative field by some GPs. Patients were very satisfied with the coaching and felt understood and supported by their GP. They stated that the meetings with the practitioners were helpful, and they felt more responsible for their health [81].

Optimierungsbedarf hinsichtlich Organisation & Abrechnung

There is a need for optimisation regarding the organisation and billing. The implementation into the practitoners' practice was mainly on their own, and ¼ of GPs included medical public administrators. Some practitioners selected patients with a high initial motivation in the recruiting process, which may predict a high chance of change. 82% of practitioners stated inadequate collective bargaining conditions for health promotion and prevention [81].

Motivation zur Fortsetzung

The evaluation report authors derived some recommendations from the evaluation results, e.g., to optimise, continue and spread the programme, and continue the evaluation. Data analysis regarding effectiveness, practicability and economic efficiency are crucial; the framework conditions for prevention in primary care should be improved [81].

Making every contact count (United Kingdom)

Intervention

Ziel: Fachkräfte ausbilden, um Verhaltensänderungen zu unterstützen

The programme 'Making every contact count' (MECC) addresses various diseases. It uses existing services to support behaviour changes and can improve public health at relatively low costs. The intervention MECC aims to train health and social care practitioners to support health-related behaviour changes in patients, e.g., smoking, alcohol consumption, diet and physical activity. It is implemented in some cities and districts of the United Kingdom [82, 83].

„gesunde Gesprächsführung"

The healthy conversation skills training was designed to be accessible to practitioners from a range of backgrounds. Front-line practitioners at all levels can be given this training in client-centred skills to support behaviour changes. The healthy conversation skills training programme included 3x3 hours group sessions over 3–5 weeks. 5 core skills of the training intend behaviour changes:

Kernkompetenzen des Trainings

1. identify and create opportunities to hold 'healthy conversations'
2. use open discovery questions
3. reflect on practice
4. listen rather than provide information
5. support goal-setting through SMARTER[14] planning [82].

durch diese Gesprächsführung Selbstwirksamkeit der Patient*innen erhöhen

Through these exploratory conversations, practitioners attempt to understand the patient's world and the context of problems. This process of empowerment should help to take control of issues and increase patients' self-efficacy. Practitioners implemented the programme in a children's centre setting during the patients' routine contact. [82].

auch Online-Kurse

MECC was also offered as an online behaviour change technique training in a clinical and non-clinical healthcare setting. One 40-minute online module included various sections, e.g., clinical communication skills, understanding the complexity of health behaviour, and behaviour change techniques such as feedback on behaviour and social reward. Clinical and non-clinical healthcare staff was involved in the programme [83].

[14] Specific, Measurable, Action-oriented, Realistic, Timed, Evaluated, Reviewed goals

Study characteristics

We included 2 publications assessing the UK programme 'Making every contact count'. A controlled trial evaluated the implementation of the training intervention and the impact on the professional practice of health and social care practitioners. Health and social care practitioners, community health nurses, oral health workers, play and family support workers, and community development workers were involved in the programme. For the implementation outcomes, data from all 148 health and social care practitioners were analysed, and for the effectiveness outcomes, 143 (short-term) and 139 (medium-term) care providers were assessed. For the long-term effectiveness outcomes, 168 conversations involving 70 trainees were observed. The practitioners involved in the MECC programme were compared to untrained practitioners. The last follow-up after baseline assessment was 1 year after the training [82].

2 Studien eingeschlossen:

kontrollierte Studie bewertet Durchführung & Auswirkungen auf (klinisches) Personal

The second study is a prospective evaluation that analysed self-reported training experiences of health care staff and changes in their behavioural determinants following an online behaviour change training module. It investigated behavioural factors related to the health staff's capability, opportunity, and motivation to engage in health conversations with service users. The programme involved clinical and non-clinical healthcare staff such as nurses, medical health professionals, and psychological therapists. 206 care providers(mean age 44 years, mostly female) were included in the survey, with 5% missing data. No follow-up was conducted [83].

prospektive Evaluation analysierte Erfahrungen des Gesundheitspersonals mit der Schulung

Effectiveness

The training impact on staff practice was assessed by questionnaires (short-term impact), post-training telephone interviews (medium-term), and researchers observed conversations between trained practitioners and patients at group activity sessions 1 year after the training (long-term) [82]. In the second study, a 9-item electronic survey was used to measure behavioural determinants. Experiences and views of the training were measured by free text feedback [83].

Endpunkte: Auswirkung auf Personal, Verhalten, Erfahrungen

Significantly greater frequeny of client-centred skills to support behaviour change compared to the controls could be observed. Concerning the short-term impact on staff practice, the number of trainees using open discovery questions increased after the training and giving information or making suggestions decreased. ¾ of trainees who had used no open discovery questions before the training used at least one afterwards. On a medium-term view, the authors found moderate to high levels of skill in finding opportunities to have healthy conversations and in using open discovery questions. Concerning long-term effects, statistically significant improvements could be observed compared to the control group in the following aspects: practitioners created an opportunity for healthy conversations, more than 2 open discovery questions were used, more time was spent in listening than giving information, and at least half of the time the trained practitioners spent asking open discovery questions [82].

klient*innenzentrierte Fähigkeiten zur Unterstützung von Verhaltensänderung verbessert

Einsatz von „gesunder Gesprächsführung"

The other trial found that the MECC online training can engage staff in learning behaviour change skills and increase their behavioural determinants to adopt these skills in practice. Behavioural determinants for having health conversations with service users statistically significantly improved after the training concerning self-efficacy, subjective norm, perceived behavioural control, behavioural attitudes, outcome expectancies, action plan and control, and

Fähigkeiten des Personals zur Vermittlung von Verhaltensänderung verbessert

Umsetzung in Praxis

behavioural expectation. ¼ of the health care staff expected to have healthy conversations with all service users, and ¾ indicated expectations to engage in health conversations with around half of the service users they see [83].

The training enhanced the staff behaviour change skills and modelled a productive and specific method of adopting a patient-led approach to behaviour change conversations. The content analysis of the feedback identified 3 key themes:

3 Kernthemen hinsichtlich der Wirksamkeit des Programms

1. learning from the training; e.g., multiple behaviour change techniques and specific communication skills
2. impact of session for individuals; e.g., implementation to day-to-day practice, reflection on practice, changed value of conversations with service users
3. views on session components; e.g., the session was valuable to staff in terms of being useful, informative and interesting [83].

Implementation

positive Rückmeldungen, hohe Teilnahmerate

The proportion of eligible staff who attended training and distribution of type of staff was calculated. Furthermore, trainees rated on a scale how valuable trainees perceived the training [82].

70% of eligible practitioners completed the training and stated that the programme was valuable. 84% of trainees gave positive (e.g., using the skills in practice) feedback and 45% negative (e.g., training content) feedback [82].

4 Discussion

NCDs führen zu hoher Krankheitslast

NCDs are globally increasing concerns for national governments and society due to their high burden of disease. Globally, CVDs, cancers, chronic respiratory diseases, and diabetes are the top 4 causes of death among NCDs. The IHME health estimates for Austria mention the, for this report, 4 selected NCDs ranked under the top 9 conditions[15]. Many western countries apply strategies to prevent and manage NCDs to improve the care for chronically ill people and extend HLY. For that purpose, various specific interventions and programmes exist in different countries. Austria significantly lags behind other countries in terms of HLY. Consequently, there is a need for health promotion due to the high prevalence of risk factors for NCDs.

daher Entwicklung von Strategien zur NCD Prävention & Management in vielen westlichen Ländern

Berichtsteil I: Mapping von nationalen Strategien aus ausgewählten Ländern

Berichtsteil II: Zusammenfassung von Evaluationsergebnissen von spezifischen Programmen zu den 4 NCDs

This report aimed to i) provide an overview of national strategies for preventing and managing NCDs in selected countries (part I) and to ii) summarise evaluation results for specific programmes to prevent or manage NCDs (part II). We included 4 NCDs, which are CVDs, chronic respiratory diseases, diabetes type II and depression. We searched literature on national strategies in various databases and selected 8 countries and their national strategies (n= 18). The following countries were included: Germany, Switzerland, Netherlands, Finland, The United Kingdom, Ireland, Australia, and Canada. After extracting the main characteristics and implementation processes of these national strategies, we selected 11 specific programmes. Concerning these programmes, we analysed 21 studies, selected using a systematic search, and extracted data in terms of study and intervention characteristics and effectiveness and implementation outcomes. The following section summarises the finding of the national strategies (part I) and the evaluation results of specific programmes (part II).

Summary of the national strategies (part I)

Zusammenfassung Teil I: 18 Strategien aus 8 Ländern (DE, CH, NL, FI, UK, IE, CA, AU) eingeschlossen

We identified 18 documents from 8 countries (Germany, Switzerland, Netherlands, Finland, UK, Ireland, Canada, Australia), published between 2011 and 2020 by the respective ministries of health or other federal organisations such as the Public Health Agency. 7 strategies address prevention and/or management of NCDs in general, whereas 11[16] documents focus on one (or more) specific NCDs such as CVDs (3), chronic respiratory diseases (2), diabetes (3) and depression/mental health (4). Most of the strategies provide information on prevention ***and*** disease management. They formulate rather broad overarching aims or visions (such as 'stay healthy' or 'living healthier lives') as well as more specific targets that can be summarised into the following main topics:

7 Strategien zu NCDs allgemein, 11 zu einzelnen Krankheiten

Strategien formulieren meist übergreifende Visionen sowie konkretere Ziele, die nach Themen zusammengefasst wurden

- improving health in general and quality of life;
- preventing NCDs/chronic illness;
- improving self-management, empowerment, health literacy;
- reducing health inequalities;
- evidence and data;
- cooperation, collaboration;

[15] IHME Data Visualisation tool: http://www.healthdata.org/data-visualization/gbd-compare (accessed 11/11/2021)

[16] One of the strategies addresses diabetes *and* CVD.

- integrated care, coordinated services, management of chronic conditions;
- reducing stigma and discrimination;
- optimising costs and resources;
- improving healthy lifestyle, healthy settings.

Zeitrahmen der Strategien 2-10 Jahre

The strategies were developed for short to intermediate time frames from 2 to a maximum of 10 years. 7 of the included strategies are still in implementation. A range of different stakeholders are involved in the development and/or implementation of the strategies, e.g., the government/specific ministries, health care providers and medical associations, patients and the civil society, health insurances, as well as research institutions. In some countries, specific structures, e.g., boards or committees, are developed for the organisational and content-related implementation of the strategies. Other countries use already existing structures. Topic-specific working groups are often set up for the development and implementation of specific activities. Some countries, such as Ireland ('A 10-step guide'), provide detailed information on how to implement integrated care into local practice (see p. 51).

Einbindung versch. Stakeholder in die Entwicklung/ Implementierung, tw. spezifische Strukturen wie Boards oder Kommittees

Monitoring/Evaluation in allen Strategien geplant bzw. bereits publiziert

All analysed strategies include information on their planned monitoring and evaluation processes. 3 evaluation reports (from Germany and Switzerland) have already been published. Information on funding is heterogeneous and usually does not go into detail. Most documents only disclose the funding of the strategy development (e.g., the ministry) but do not provide information on the funding of the specific measures and activities. However, the Swiss strategy mentions several funding sources such as Health Promotion Switzerland and the Tobacco Prevention Fund.

wenig Information zu Finanzierung

spezif. Maßnahmen/ Aktivitäten der Strategien umfassen folgende Themen:

All of the included strategies provide information on the measures and activities planned to be carried out within the implementation of the strategy, usually structured according to the respective targets, strategic directions or fields of action. The activities were grouped by the strategies' focus (NCDs in general or the specific NCDs) and the following topics:

Gesundheitsförderung & Primärprävention

- *health promotion, primary prevention (incl. behavioural and structural prevention):* e.g., promote healthy eating and physical activity, strengthen tobacco and alcohol prevention, facilitate healthy choices, promote healthy local environments and settings;

Selbstmanagement, Gesundheitskompetenz

- *self-management, health literacy:* e.g., support people to learn more about their chronic condition and its management, enhance access to structured self-management education programmes, strengthen (mental) health literacy and skills in education, workplace and services for older adults;

Früherkennung, Screening

- *early detection, screening:* e.g., promotion of health checks, evidence-based screening programmes, develop, adopt and disseminate evidence-based, nation-wide practice recommendations for early detection of key risk factors;

Krankheitsmanagement, integrierte Versorgung

- *disease management, integrated care:* e.g., develop integrated pathways between primary and secondary care, ensure effective transfer, discharge and referral pathways between healthcare services, implement concepts for patient-centred, coordinated care, provide/improve access to the right combination of services, treatments and supports, when and where people need them;

- *target group-specific measures, populations at high risk:* e.g., integrate target-group-oriented measures for each age group, deliver services in a culturally safe way involving people from the same cultural background, promote equity by addressing the specific needs of vulnerable groups, ensure equity of access for all groups;

spezifische Maßnahmen für best. Ziel- & Risikogruppen

- *activities outside the health care sector:* e.g., promote further implementation of tobacco control measures concerning tobacco advertising and availability of tobacco products; further develop cooperation with the economy and facilitate healthy choices, target multiple settings (e.g., schools, workplaces, communities), develop a more family-friendly workplace/create mentally healthy workplaces;

Aktivitäten außerhalb des Gesundheitssektors

- *digital technologies:* e.g., adapt offers in the areas of patient education/self-management/self-help, taking into account modern technologies, support current access to flexible telemedicine consultations and exploring the expansion of telehealth services.

digitale Technologien

Identifizierung konkreter Programme/Maßnahmen (tw. aus den Strategien, tw. andere Quellen)

Some strategies provide information on specific measures and interventions to be carried out to reach the strategy's aims. Other strategies remain on a macro-level and do not contain any details on specific programmes. We identified a total of 17 programmes of potentially relevant specific interventions that have been evaluated and could be further analysed in the second part of this report. Some of these programmes come directly from the national strategies; others were found through a hand search, e.g., on websites of the respective ministries. Together with the Austrian MoH, we selected 2-3 programmes for each indication, resulting in a total of 11 programmes for further analysis (part II).

Auswahl von 11 Programmen mit BMSGPK für die weitere Analyse

Summary of the programmes' evaluation (part II)

21 Artikel inkludiert zu den 11 Programmen

We included 11 programmes from 6 countries[17] (Germany, Finland, Switzerland, Canada, Australia, UK). In a further step, we selected 21 articles concerning these programmes through a systematic search, which we included for further analysis.

heterogene Studiendesigns; meist Patient*innen, tw. Gesundheitspersonal als Studienpopulation

The study designs of the included articles were very heterogeneous, i.e., evaluation reports, (systematic) reviews, a meta-analysis, (non-)controlled trials, cohort studies, and a cross-sectional study. The different trials involved mostly patients or clients and adults with risk factors; the general public and (health) care providers such as GPs participated in some studies.

Programme mit Fokus auf Krankheitsmanagement (n=5), Prävention (n=5) oder beides (n=1)

vielfältige Programmziele:

The programmes focused on disease management (n=5) or prevention (n=5); one intervention (Mental Health First Aid) concentrated on both. A wide range of different programme targets could be identified. The main goals implied improving the quality of health care and access to health services, modifying treatment pathways and processes, increasing the efficient use of health care resources, and adherence to evidence-based medicine. Furthermore, reducing mortality and morbidity, training health and social care practitioners, and preventing NCDs through behavioural change and reducing risk factors were mentioned.

[17] Some of the analysed programmes (Stepped Care 2.0, Mental Health First Aid, Living well with COPD) are already implemented in other countries.

… bzgl. Qualität & Ressourceneinsatz sowie patient*innenzentrierte Ziele

Patient-oriented aims were to equip patients with knowledge and skills to achieve health-related behaviour changes to prevent and reduce risk factors. Helping patients cope better with their diseases, enabling self-management, and empowering them to manage and maximise their well-being should improve their quality of life and health literacy and increase life expectancy.

Wirksamkeits-Outcomes: z. B. Mortalität, Morbidität, LQ, Verhaltensänderung

Effectiveness outcomes, which were most often evaluated, were mortality, morbidity, quality of life, disease severity, well-being, self-management and efficacy, risk factors, and social support. The programmes assessed patients' changes in health status, behaviour and literacy and their health skills and knowledge. Furthermore, the training impact, satisfaction with the programme and health care, process quality, and healthcare utilisation were studied.

Implementierungs-Outcomes: z. B. Teilnahme, Akzeptanz

The programmes' reach, dose, and acceptance were the most often evaluated implementation outcomes as well as experiences with the health system and programmes.

die meisten Evaluationen zeigten positive Effekte für einzelne Outcomes, z. B. Verbesserung der Qualität der Leistungen, des Gesundheitszustands & -verhaltens, …

Generally, most of the evaluations demonstrated positive effects on the study population or at least an association between the programmes and outcomes. The studies indicated the improved quality of health services and process quality after the programmes had been implemented. Primary healthcare utilisation among participants increased, and patients and programme providers were overall satisfied with the programmes. Main effectiveness outcomes improved mostly due to the programmes such as mortality, morbidity, quality of life, health status, and self-efficacy. According to the evaluation results, the programmes positively affected patients' health-related behaviour, knowledge and skills, leading to changes in risk factors. Most of the patients maintained their health behaviour in a longer-term perspective.

in manchen Studien , jedoch keine signifikanten Verbesserungen oder unklare Ergebnisse

However, some studies failed to demonstrate significant improvements in particular regarding the (health-related) quality of life and morbidity. This was the case in the DMPs for CVD and COPD, respectively. In the German DMP for diabetes, the findings for morbidity and quality of life remain unclear so that no general conclusions could be made. A number of evaluations were unable to demonstrate a positive effect on disease severity, well-being, health literacy, anxiety, depression, fatigue, days in hospital or risk factors such as physical activity or smoking. This was the case with 'Living well with COPD' and the DMP for COPD. Patients of the GLICEMIA programme also mentioned that they would have liked more information and support in changing risk factors. The programme 'Living well with COPD' described a need for regular proactive care and follow-ups.

Effektivität bei qualitativ hochwertigen Studien

Anyway, it must be stated that the results might be biased due to the lower quality of some included studies. Therefore, the following table gives information about effectiveness outcomes of *high-quality* studies, i.e., RCTs, systematic reviews and meta-analyses, to summarise high-quality evidence of effects.

Table 4-1: Summary table of effectiveness outcomes of high-quality studies

Programme (NCD)	Study design	Author, year [reference]	Effectiveness outcomes	
			Significant effects (in favour of the intervention group)	Non-significant effects
GLICEMIA (diabetes type II)	Cluster-randomised controlled trial	Schmiedel, 2015 [72], 2020 [73]	■ Diabetes risk ■ Weight ■ Physical activity ■ Physical quality of life ■ Subjective health status ■ Perceived overall benefit ■ Satisfaction with care	■ Mental quality of life ■ Blood pressure
Finnish Diabetes Prevention Study (diabetes type II)	Randomised controlled trial	Lindström, 2003 [76], 2013 [77]	■ Weight ■ Physical activity (moderate-to-vigorous) ■ Diabetes diagnosis ■ Saturated fat ■ Fibre ■ Dietary changes	■ Physical activity (total)
Disease Management Programme (diabetes type II)	Systematic literature review	Fuchs, 2014 [74]	■ Mortality rate ■ Survival time ■ Cholesterol level ■ Satisfaction with health and diabetes care ■ Process parameters, e.g., participation in diabetes education	■ Morbidity ■ Quality of life
Mental Health First Aid (mental health)	Meta-analysis	Hadlaczky, 2014 [78]	■ Change in knowledge ■ Attitudes ■ Helping behaviours	

Compared to the effectiveness outcomes, less than ½ (n=8) of all included studies provided information on implementation outcomes of the individual programmes. National focal points, monitoring, feedback, and international collaborations are crucial for successfully implementing health programmes. Some programmes were supported by the government, which brings financial advantages and could, for example, also help spread the programme. Authors recommended an evidence-based foundation, which shows the programme's credibility and makes funding more accessible. Furthermore, the results show that a multidisciplinary team with exchange meetings, regular patients' contacts, and follow-up measures are essential. Where measured, high participation and attendance of patients and programme providers, who benefited from the programmes, show that the programmes were well accepted. Many programme providers evaluated the intervention approach as positive, implemented it in their practice and were motivated to continue.

Ergebnisse zur Implementierung nur in 8 Studien

Programme meist gut akzeptiert & hohe Teilnahmeraten

empfohlen werden z. B. multidisziplinäre Teams, regelmäßiger Patient*innen-Kontakt & Follow-up Termine

Programme providers mentioned a need for further training, and more resources and support are desired. Also, they found that organisation and billing of the programme need to be optimised. Some recommendations from the evaluation results were that the programmes should be optimised, continued and spread as well as the evaluation needs to be continued on a long-term basis.

in manchen Studien Bedarf nach mehr Training, Ressourcen & Unterstützung geäußert

Discussion of the findings

Part I

Teil I: nationale Strategien sehr heterogen

Schweiz als Best-Practice Beispiel für gut durchdachte Strategie auf allen Ebenen

NCD-Strategie ist eingebettet in übergeordnete Health2020 Strategie & verknüpft mit weiteren Strategien; Maßnahmenplan beinhaltet alle geplanten Aktivitäten; Monitoring & Evaluation vorhanden

The analysis of the national strategies in **part I** showed that the degree of organisation of the identified strategies and policies differed considerably between the countries. A best-practice example of an elaborated and well-organised strategy at all levels is Switzerland. As part of the Health2020 strategy[18], the Swiss Federal Council has decided to intensify health promotion and disease prevention. The measures of Health2020 are implemented in over 90 subprojects[19]. One of these is the National Strategy for the Prevention of Noncommunicable Diseases 2017-2024 [32], presented in 2016. The NCD strategy includes actions in 3 main areas: population-related health promotion and prevention, prevention in health care, and prevention in the economy and the world of work. All measures to be carried out within the implementation of the strategy can be found in the associated action plan [62]. Close coordination takes place between the NCD strategy and other strategies and projects of Health2020, e.g., the National Strategy on Addiction, Action Plan Suicide Prevention, National Dementia Strategy. Several already existing national prevention programmes, focusing on, e.g., alcohol, tobacco, nutrition, physical activity, migration and health, have been incorporated into the NCD strategy. Additionally, disease-specific strategies were developed by different stakeholders, such as the National Cancer Strategy or the National Strategy on Cardiovascular Diseases, Stroke and Diabetes[20]. Regarding monitoring and evaluation, Switzerland also provides detailed information on the indicators to be used as the basis for an NCD monitoring system [86] and has already published an interim evaluation report [60] as well as annual reports.

Strategien anderer Länder eher oberflächlich

Other countries, however, do not provide such detailed information on concrete activities and the implementation process. Some strategies remain rather superficial without mentioning specific measures to be carried out to reach the strategy's aims.

für manche Länder keine Strategien identifiziert

z. B. Schweden – keine eigene NCD-Strategie, aber Maßnahmen zur Reduktion von Risikofaktoren in andere Policies integriert

For some countries, we could not identify any NCD strategies at all. For example, this was the case for Sweden. Sweden does not have an overall strategy for NCDs, but the work with alcohol, tobacco, eating habits and physical activity is instead included in various governing documents. In June 2018, the Parliament of Sweden decided on the Bill entitled 'Good and equitable public health – an advanced public health policy'. The overarching objective of public health policy was reworded, with a clearer focus on equitable health throughout the population and reducing avoidable health inequalities within a generation.[21] A comparison across the EU Member States shows that Sweden has the highest HLY at birth, with 74 years for men. In contrast, Austria's level of HLY at birth for men was below 60 years, a difference of more than 10 years. In 2019, a man born in Austria could expect to live around 70% of his life free from activity limitations, whereas the share rose to 90% in Sweden [5].

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[18] The Health2020 strategy has since been superseded by the Health2030 strategy: https://www.bag.admin.ch/bag/de/home/strategie-und-politik/gesundheit-2030.html (accessed 27/09/2021).

[19] Information on all activities of the Health2020 strategy can be found here: https://www.g2020-info.admin.ch/ (accessed 27/09/2021).

[20] This strategy was also included in the analysis, see chapter 3.1.

[21] Anna Jansson (Head of Unit for Health-promoting Lifestyles, Public Health Agency of Sweden), personal communication, 20/05/2021

globale vs. internationale vs. (sub)nationale Strategien

In 2013, the 'WHO Global Action Plan for the Prevention and Control of NCDs 2013-2020' was endorsed by the World Health Assembly. This plan provides the WHO, international partners and Member Stated with a menu and road map of policy options, including 9 global NCD targets [7]. Next to global strategies, regional strategies, such as the 'Action Plan for the Prevention and Control of NCDs in the WHO European Region 2016-2025' [8], and national and sub-national strategies exist.

Analyse von NCD Policies in OECD-Ländern – 3 Hauptthemen identifiziert

A starting point for identifying data to answer our research question was the systematic NCD policy analysis among OECD Member States by Briggs et al. [28]. The 3 key themes to describe the general aims of NCD strategies identified in this study were better population health, improved service delivery and system-strengthening approaches (such as the implementation of models of care), which is in line with our results.

Zeitrahmen & Qualität der Ziele (SMART)

Regarding the objectives and aims of the included strategies, other important aspects would be the time horizon (i.e. short-term, intermediate, long-term) and the quality of these aims, i.e. if they can be considered as SMART (specific, measurable, achievable, realistic, time-bound) [87]. These criteria should definitely be taken into account when developing a new strategy.

Patient*innen & Öffentlichkeit als Stakeholder

11 of the 18 strategies explicitly stated that patients and/or 'the public' were involved in the development of the strategy as stakeholders. More detailed information on the methods of patient involvement would be necessary because the involvement of those affected appears to be very important, especially in the case of chronic illnesses, and should also be taken into account when developing a new strategy.

„Public Health Action Cycle" für Entwicklung & Implementierung

The 'Public Health Action Cycle' could be used for the strategy development and its implementation, consisting of 4 steps: 1. the definition of the problem, 2. the conception and definition of a strategy or measure that appears suitable for addressing the problem (strategy formulation), 3. the implementation of the defined actions, and 4. the assessment of the achieved effects (evaluation) [88].

Fokus des Berichts auf Interventionen innerhalb des Gesundheitssystems

in den Strategien auch zahlreiche Beispiele für Maßnahmen außerhalb des Gesundheitssystems

As pre-defined by the Ministry of Health, the focus of our report was on interventions that are to be carried out within the health care system. However, the included strategies also gave examples of measures outside the health sector, such as implementing structural prevention activities concerning nutrition, creating physical activity-friendly urban areas or increasing (mental) health literacy in education and workplace. The Swiss NCD strategy, for example, explicitly refers to the Model of Health Determinants by Dahlgreen & Whitehead (1991). Health determinants, i.e. individually varying risks and resources, influence the health of the individual. They include socioeconomic, cultural and environmental conditions, living and working conditions (such as housing, work environment, unemployment, education), social and community networks, or individual lifestyle factors [32].

zahlreiche Determinanten beeinflussen Gesundheit, z. B. Lebens- & Arbeitsbedingungen, soziales Umfeld, Umweltbedingungen

„Health in All Policies" Ansatz nötig

Health is therefore not only determined by individual biological factors (age, gender, genetic factors) or by access to health care and other health services, but also by the behaviour and lifestyle of the individual, living and working conditions, the social environment, and the general economic, cultural and environmental conditions. Many important factors influencing the health of the population thus lie outside the health care system, such as in the area of social, educational, environmental, labour market, transport or economic policy. They should be addressed by a 'Health in All Policies' approach [89]. Not addressing those determinants and the structural prevention approaches that this entails bears the risk of reinforcing health inequalities.

viele Strategien beinhalten Maßnahmen mit dem Ziel gesundheitliche Ungleichheit zu verringern

Importantly, many of the NCD strategies identified actively address this issue by including measures to reduce health inequalities such as focussing on disadvantaged groups or on groups with the greatest health risks. Marmot & Bell argue that a 'whole system approach' that integrates action on the social determinants of health is needed to reduce the burden of NCDs. System-wide efforts to improve the social determinants of health include, for example, early childhood education, lifelong learning, working conditions, reduction of poverty, ensuring a healthy standard of living, housing and the environment as well as prevention of ill health [90]. Social determinants of health should be specifically addressed in the development and implementation of measures aimed at certain NCDs, e.g., diabetes [91], CVDs [92], and mental health [93].

Tabakkonsum & soziale Determinanten der Gesundheit

Preiserhöhung von Tabakprodukten als effektive Maßnahme

Auswirkungen auf gesundheitliche Ungleichheit beachten

Social determinants of health also play an essential role in the prevalence of tobacco use which is higher in lower socioeconomic groups and vulnerable populations (such as adolescents) within and across countries [94]. Although smoking has been overall reduced in Europe, the main effects have been observed in middle- and high-income groups, which resulted in a widening of socioeconomic inequities. Therefore, when introducing tobacco control measures, their impact on inequities need to be considered. Many effective interventions to prevent chronic diseases are at the policy level. For example, increasing the price of tobacco products is one of the most effective measures to prevent NCDs. It should be ensured that smoking cessation support and nicotine replacement therapy are affordable and accessible to low-income groups and accompany price increases [95].

"Health Impact Assessment" (Gesundheitsfolgenabschätzung)

The before mentioned 'Health in All Policies' approach needs the tool 'Health Impact Assessment' for early assessment of the positive as well as negative health impacts of policy measures in a wide range of sectors. Health Impact Assessments can contribute to an overall health-promoting policy and promote health equity [96].

Part II

Teil II: Programme mit unterschiedlichen Schwerpunkten, Studienpopulationen & Indikationen

Fokus meist auf Interaktion zw. Patient*in & Ärzt*in, anderer Zugang z. B. bei Mental Health First Aid

In **part II**, we included a variety of programmes with different focuses, e.g., prevention or disease management, study populations and indications. Most programmes, such as DMPs or prevention programmes, focus on the interaction between the individual patient and their care providers (usually their GPs). However, we included 2 programmes with different approaches. 'Making every contact count' (MECC) equips health and social care practitioners with 'healthy conversation skills'. The aim is to use these skills universally in day-to-day interactions to support patients in making positive changes to their physical/mental health. Another approach is described in 'Mental Health First Aid' (MHFA)[22]. This targets citizens rather than persons at risk by providing training open for everybody to recognise signs/symptoms of mental health problems and provide initial help. The aim is to strengthen mental health literacy in the general population rather than in a patient.

Programme setzen an Verhaltensebene an

Stichprobenverzerrung durch Einschluss von motivierten Patient*innen

As demonstrated, many programmes within the health care system primarily focus on individual behaviour changes and interactions between the individuals and their care providers rather than creating supportive environments. These interventions are likely more successful in easy-to-reach groups (e.g., those of higher socio-economic position) [90]. It was, for example, striking that a number of programmes in this report reached many more women than men.

[22] A Cochrane review entitled 'Mental Health First Aid as a tool for improving mental health and well-being' is currently in progress [97].

Selecting only highly motivated patients and thus having a high probability of actually changing their behaviour, as reported in one study [81], may lead to a selection bias.

Disease Management Programme seit 2002 in D; Wirksamkeit vorab nicht adäquat überprüft

In our report, we included 3 German DMPs. DMPs were introduced in Germany in 2002[23] at a national level but without valid randomised or pseudo-experimental evaluation designs. There is an ongoing debate on the evaluation of the German DMPs and their effectiveness. The interpretation of DMP findings is complicated by conflicting interests, e.g., due to the initial coupling of DMPs with financial risk adjustment schemes for health care insurances [85].

Aussagekraft der DMP-Evaluationen (deskriptive Auswertung der Routinedaten) sehr eingeschränkt

keine Kontrollgruppen

The purely descriptive nature, charting the programmes' development, and the missing comparison between DMP and standard care severely limits the interpretation of the data regarding the effectiveness of the DMP. Furthermore, there may be a systematic difference between GPs participating in the DMP and those who do not participate, introducing a bias [85]. Another limitation of the German DMPs is that findings for a study sample consists of individuals insured by one single sickness fund and can therefore not necessarily be extrapolated to other sickness funds. DMP evaluations require investigation of individuals insured by multiple sickness funds based on uniform methods [74].

Überprüfung der Wirksamkeit mit robustem Studiendesign *vor* Implementierung wichtig

DMP evaluation is mandatory by German law, unusual among European countries, but data comparison on DMP participants with a control group (i.e., routine care) is not required by law. RCTs, the gold standard for effect reporting, are not possible for already implemented DMPs [74]. Sickness funds and research institutions try to improve DMP evaluations via controlled studies, additionally to evaluations required by law [74]. This example demonstrates the importance of developing a robust evaluation design before a DMP is implemented, while a retrospective causal analysis is hard to perform and necessarily limited [85].

Ö 2007: cluster-RCT zum österreichischen DMP für Diabetes Typ II („Therapie aktiv")

Verbesserung bei Prozessqualität & Gewichtsabnahme, aber nicht bei HbA1c

An Austrian cluster-randomised controlled trial that evaluated the effectiveness of the Austrian DMP for diabetes type II ('Therapie aktiv') demonstrates that robust evaluation designs for diabetes DMP are possible. However, they also may present less favourable results: The trial analysed HbA1c and quality of care for adult patients in primary care. 1,489 patients were recruited by 92 physicians (cluster-randomised by district) and followed up for 1 year. The authors found that the Austrian DMP improved process quality and enhanced weight and cholesterol reduction, but metabolic control as measured by HbA1c after 1 year was not significantly improved. They concluded that earlier non-randomised trials have probably been overestimating the effects of DMP [98].

trotz Komplexität der Interventionen tw. gute Studiendesigns mit langem Follow-up in den inkludierten Evaluationen

Also, many studies included in this report show that detailed evaluation designs are possible when evaluating NCD prevention and management programmes even though the interventions are usually complex, involving a number of actors and process components. It also needs to be acknowledged positively that many of the studies had medium and some (e.g. the Finish 'North Karelia Study') even long-term follow-ups, contrary to many (drug) treatment studies.

[23] https://www.gesundheitsinformation.de/was-sind-disease-management-programme-dmp.html (accessed 29/09/2021)

nur wenige Informationen zur Implementierung der Maßnahmen; daher Übertragbarkeit auf andere Länder unklar

More weight in the studies was given to effectiveness outcomes than to process quality and successful implementation. This limits understanding regarding feasibility and acceptability of the interventions, e.g., to what extent the target groups have been reached, barriers to participating in the programmes or providing the programme among professionals. It also limits the understanding to which extent the interventions might be transferable to other jurisdictions.

Gesundheitspersonal zur Programmimplementierung motivieren

One main challenge regarding the implementation of programmes is to motivate GPs and health specialists who cannot or do not want to implement the programme due to lack of experience and resources. These health specialists should take advantage of existing structures and function as cooperating partners for their patients' health [99].

Limitations

Teil I: Identifizierung der Strategien durch Handsuche, keine systematische Suche

nur englisch- & deutschsprachige Strategien

For part I, we searched for national NCD strategies and policies using a structured and extensive hand search. We did not perform a systematic literature search in databases because national strategies are often published on websites, e.g., of the respective Ministry of Health. Another limitation is that some countries only provide the strategies in their national language. As we could only include documents in English or German, we had to exclude strategies that were not available in one of these languages. However, we were able to include a broad range of countries with different public health traditions and different health systems, focusing on Europe but also involving 2 non-European countries.

Auswahl der Programme mit BMSGPK, nicht alle Länder von Teil I auch in Teil II vertreten

The selection of the specific programmes was made in consultation with the Austrian MoH. Priority was given to programmes with potential transferability and feasibility for the Austrian health care system; even if not all countries covered in part I would still be represented in part II. Therefore, not all of the 8 analysed countries of part I are also represented in part II, i.e., no programmes from Ireland and the Netherlands were selected for in-depth analysis in Part II, whereas the 2 German-speaking countries were particularly well represented (5 of 11 programmes).

Fokus auf 4 NCDs – andere (z. B. Krebs) nicht berücksichtigt

Fokus auf Erwachsene, nicht Kinder & Jugendliche

jedoch „life course approach" nötig, insbes. zur Verringerung gesundheitlicher Ungleichheit

The report included strategies and specific programmes dealing with one or more of 4 NCDs – CVDs, chronic respiratory diseases, diabetes and depression. Other high-burden NCDs, such as cancer or musculoskeletal conditions, were not the focus of this report. Furthermore, the project aimed at summarising strategies and programmes primarily addressing adults, and not children and adolescents. However, especially when it comes to preventing NCDs, a life course approach is useful to consider all age groups' needs and address NCD prevention and control in its earliest stages. Throughout all stages of life, the main NCD risk factors can be targeted to help prevent NCDs and mental health disorders later in life [100]. Additionally, a life course approach is crucial to tackle the inequalities of health, i.e. the unequal conditions in which people are born, grow, live, work, and age, as well as the inequities in power, money, and resources [90]. Importantly, health promotion and prevention in early childhood (particularly regarding mental health) have been shown to be particularly promising regarding return on investment and should therefore be addressed in the future [101].

In addition, as pre-defined by the Ministry of Health, the report focused mainly on interventions implemented within the health care system. Activities outside the health care system, in the sense of 'Health in All Policies', have usually not been taken into account. However, these interventions cannot always be clearly distinguished from each other, as they often go hand in hand. For example, the North Karelia Project shows that a mix of interventions is often needed, including activities in the health care system, education interventions, media campaigns and community-based activities.

Fokus auf Interventionen im Gesundheitssystem

Trennung nicht immer möglich, z. B. North Karelia Projekt

Regarding the evaluation of programmes (part II), the inclusion of articles was selective. We tried to find all articles for each programme through a systematic search but only included those where the study design indicated a high quality of evidence (e.g. comparative design, high number of study participants, long follow-up), if available. Additionally, we mainly selected the most recent publications.

Teil II: Auswahl der Artikel selektiv; nach Qualität des Studiendesigns, Follow-up, …

The included studies were very heterogeneous, e.g., their study designs, follow-up and evaluated outcomes. The programmes were also heterogeneous, ranging from prevention to disease management interventions. In some cases, the intervention is not described in sufficient detail. Various statistical numbers or narratively described findings were reported differently in these studies.

große Heterogenität der Studien bzgl. Studiendesign, Outcomes, Darstellung der Ergebnisse, …

This report aimed to give an overview of existing programmes and not to evaluate the effectiveness of single programmes in detail. Therefore no risk of bias assessment was undertaken. Since articles with various study designs were included, only limited comparisons of their different significance could have been made.

kein Risk of Bias Assessment, da Vergleichbarkeit nicht gegeben

Nevertheless, though those limitations are given, the results provide a valid impression of the national strategies of different countries and their programmes in preventing and managing NCDs.

5 Conclusion

- Many Western countries have national strategies and policies dealing with the prevention and/or management of NCDs. These differ substantially in terms of their level of detail, structure and implementation. **nationale NCD-Strategien mit unterschiedl. Detail- & Organisationsgrad**
- The strategies mainly aimed at preventing NCDs, improving health and quality of life, strengthening self-management and health literacy, reducing health inequalities, and providing integrated care and coordinated services for chronic conditions. **Ziele der Strategien**
- All strategies include information on specific actions and activities to be carried out to reach the aims, but only some strategies give detailed information on these programmes and interventions, including their evaluation. **spezifische Aktivitäten & Maßnahmen zur Zielerreichung**
- A range of programmes was selected to give an overview of different possible approaches in terms of content, setting, professional groups, outcomes and evaluation designs. **Programm-Auswahl zeigt unterschiedliche Ansätze**
- Most evaluations showed positive effects regarding effectiveness (e.g., mortality, morbidity, quality of life, self-management, healthcare utilisation) and/or implementation (e.g., acceptance, experiences with the programme). However, different study designs were included, and not all of them provide high-level evidence. **oft positive Ergebnisse zur Wirksamkeit, aber nicht alle Studien mit hohem Evidenzgrad**
- Our report mainly focused on interventions within the health care system. However, NCD prevention and management need a 'Health in All Policies' approach in order to adequately address the social determinants of health. **"Health in All Policies" Ansatz**
- Finally, it should be noted that the report cannot provide a conclusive assessment of the effectiveness of individual interventions but gives a broad overview of different strategies and diverse approaches to NCD prevention and management. Before adapting and implementing a specific intervention, an in-depth analysis of the available evidence should be conducted. **breiter Überblick über Strategien & Programme, keine abschließende Bewertung der Wirksamkeit**

Implications for health policy

- A structured approach of strategies and programmes from a macro to a micro level seems crucial to achieving a comprehensive, coordinated overall policy. **strukturierter Ansatz von Makro- bis Mikroebene**
- Strategies and programmes should be regularly evaluated using appropriate methods to measure target achievement and (long-term) effectiveness. Additionally, implementation parameters need to be sufficiently addressed. **regelmäßige Evaluierung**
- Evaluation designs need to be developed before programmes are implemented, and ideally, programmes are piloted before large-scale roleouts. This allows comparing regions where the programmes are implemented with those without implementation, thereby obtaining more robust evidence on their effectiveness. **Vorab-Planung der Evaluierung & Pilotierung von Programmen**
- NCD prevention and management need a 'Health in All Policies' approach in order to adequately address the social determinants of health. Attention needs to be drawn to distributional effects of NCD strategies and specific programmes, thus avoiding reinforcing health inequalities. **„Health in All Policies" Ansatz, gesundheitliche Ungleichheit**

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Appendix

Extraction tables of the national strategies (part I)

Germany

Table A-1: Main characteristics and implementation process of the included NCD strategies from Germany

Country, year [reference]	Germany, 2014 [51]	Germany, since 2000 [42]
Title of the strategy/policy	IN FORM Germany's initiative for healthy diet and more physical activity – National action plan for prevention of malnutrition, lack of physical activity, overweight and associated diseases *[IN FORM Deutschlands Initiative für gesunde Ernährung und mehr Bewegung – Nationaler Aktionsplan zur Prävention von Fehlernährung, Bewegungsmangel, Übergewicht und damit zusammenhängenden Krankheiten]*	Health Targets in Germany *[Gesundheitsziele.de]*
Publisher	Federal Ministry of Food and Agriculture *[Bundesministerium für Ernährung und Landwirtschaft]*, Federal Ministry of Health *[Bundesministerium für Gesundheit]*	Office of the cooperation network *gesundheitsziele.de [Geschäftsstelle des Kooperationsverbundes gesundheitsziele.de]*
Indications (NCDs)	malnutrition, lack of physical activity, overweight and associated diseases	diabetes mellitus type II, breast cancer, depression, and several risk factors such as smoking and alcohol consumption
Focus: prevention/ management	prevention	prevention + management
Targets/aims/vision	The ***goal*** of the National Action Plan is the sustainable improvement of nutrition and physical activity behaviour in Germany. The aim is to achieve: ■ that adults live healthier lives, children grow up healthier and benefit from a higher quality of life and increased performance in education, work and private life. ■ a significant reduction in diseases caused by an unhealthy lifestyle with an unbalanced diet and lack of exercise. The National Action Plan aims: ■ to communicate the importance of a healthy diet and sufficient exercise for one's own health; ■ to align recommendations on nutrition and physical activity behaviour in a target group-specific and implementation-oriented manner; ■ to create or improve structures to facilitate a healthy lifestyle with a balanced diet and sufficient exercise in personal responsibility; ■ to network stakeholders and measures that contribute to an expanded, coordinated service; ■ to raise awareness of good and effective projects and to promote the transparency of the offers with regard to quality, scope, financing and measurement of success.	Health targets are agreements between the responsible stakeholders in the health care system, which focus on the population's health as the overarching goal. They aim to improve health in defined areas or for certain groups. At the same time, structures that influence the health of the population and the provision of health care should be optimised. Since 2000, the cooperation network *gesundheitsziele.de* has developed and published the following national ***health targets***: ■ Diabetes mellitus type II: reduce the risk of disease, detect and treat patients earlier (2003) ■ Breast cancer: Reduce mortality, improve quality of life (2003) ■ Reduce tobacco consumption (2003; updated 2015) ■ Grow up healthy: life competence, physical activity, nutrition (2003; updated 2010) ■ Increase health literacy, strengthen patient sovereignty (2003; update 2011) ■ Depressive diseases: prevent, diagnose early, treat effectively (2006) ■ Healthy ageing (2012) ■ Reduce alcohol consumption (2015) ■ Health around birth (2017)
Additional documents available?	■ Final Report: Evaluation of the National Action Plan IN FORM, 2019	■ Final Report: Survey to evaluate the overall process of *gesundheitsziele.de* ■ Database of measures *[Maßnahmendatenbank]*: https://gesundheitsziele.de/gz_datenbank_view

Country, year [reference]	Germany, 2014 [51]	Germany, since 2000 [42]
Implementation process		
Time frame	until 2020	n.r.
Involved stakeholders	■ Federal Ministry of Food and Agriculture, Federal Ministry of Health; ■ Federal government, states and municipalities; ■ Professional associations and societies; organisations in the field of prevention, health promotion, nutrition, physical activity; ■ Civil society;	■ the Federal Government, the states, municipal associations, statutory and private health insurance organisations, pension insurance organisations, health care providers, self-help and welfare organisations and research institutes; ■ in total, more than 120 health care organisations are involved in *gesundheitsziele.de*;
Organisational framework conditions	■ the national action plan is a continuous process; it describes the way to bundle and improve current and planned measures and to set new impulses; ■ the national action plan is an instrument of dialogue and is thus open in its design for further developments; ■ the 2 ministries form an administrative office *[Geschäftsstelle]* to implement and further develop the National Action Plan; the office is responsible for the organisation of the working structure, the continuous monitoring of success and the operational control of the process; ■ a federal interministerial working group and a joint working group of the federal government, the states and the municipalities have been established to support the process of implementation and further development; ■ the national steering group (with members from the federal government, the states and the municipalities as well as other stakeholders) is responsible for networking activities and the technical advice to the office; ■ topic-specific working groups develop recommendations for the content, the development of specific measures and the implementation of results; ■ the civil society is permanently involved in the process;	■ *gesundheitsziele.de* started as a joint pilot project of the German Federal Ministry of Health and the GVG (Association for Social Security Policy and Research) in December 2000; ■ since 2007, *gesundheitsziele.de* has been a forum of more than 120 member organisations aiming to advance the development of the national health target process; ■ the organisational structure of *gesundheitsziele.de* comprises the committee, the evaluation board and the working groups; ■ the decision making body is the committee; it sets up working groups for specific tasks, adopts the work results and makes recommendations to the relevant stakeholders in health politics;
Monitoring/evaluation	■ quality assurance and evaluation: the success of individual projects is reviewed based on predefined indicators; this is used to determine which measures are particularly successful, have a sustainable effect and are cost-effective; ■ the basis for the evaluation and the definition of quality assurance standards for projects will be developed by an independent institution by 2010; ■ the results will be presented in 2 interim reports (probably in 2011 and 2016), and further steps will be defined on this basis;	■ the evaluation board is responsible for planning and conducting evaluations; ■ evaluation concepts have already been developed for 3 health targets ("Reduce tobacco consumption", "Depressive diseases" and "Increase health literacy, strengthen patient sovereignty"); for the health target "Grow up healthy", an evaluation was carried out for the setting Kindergarten, and an evaluation concept was derived from this; another evaluation concept is planned for the health target "Healthy ageing"; ■ in addition to the evaluation of individual targets, the overall process of *gesundheitsziele.de* was evaluated for the first time in 2013;
Funding	■ for the implementation of the national action plan, 5 million euro is available each year in the budgets of the federal ministries in charge – initially for the period 2008 to 2010; ■ in addition, there are the funds that other federal ministries, the federal states, civil society and the economy provide through their own activities and measures to support the national action plan;	■ the office is located at the GVG and is financed by several cooperation partners, e.g., the Federal Ministry of Health, the Ministries of Health of the Federal States, the statutory health insurance associations, the private health insurance association, the German Pension Insurance, the German Medical Association, etc.

Country, year [reference]	Germany, 2014 [51]	Germany, since 2000 [42]
Actions/activities to reach the aims/objectives of the strategy	***Key fields of action, their aims and actions:*** 1. Role model function of the public sector: The federal, state and local governments are role models for promoting healthy eating and physical activity. Actions, e.g.: ■ the health impact assessment in federal legislation leads to a strengthening of health-promoting framework conditions; ■ when allocating public funds, aspects of health promotion are also considered for the areas of nutrition and exercise; ■ federal, state and local authorities as providers of community facilities in the area of education, care and health, improve the framework conditions with regard to the promotion of healthy eating and physical activity behaviour within the facilities; 2. Education and information about nutrition, exercise and health: The nutrition and physical activity programmes enable people to lead a healthy lifestyle and strengthen self-responsible behaviour. Actions, e.g.: ■ nutrition and physical activity information is aimed at all age groups; the content is prepared in a way that is suitable for the target group; 3. Physical activity in everyday life: People in Germany are regularly physically active in their everyday lives. Their living environments offer sufficient attractive incentives for physical activity. Actions, e.g.: ■ target group-oriented measures are integrated for each age group; groups with a sedentary lifestyle are particularly promoted; ■ the living environments contain sufficient incentives for physical activity; 4. Quality improvement of out-of-home catering services: The out-of-home catering services facilitate a balanced diet in everyday life. Actions, e.g.: ■ the quality of the services offered in out-of-home catering will be significantly improved; ■ all people have the opportunity to benefit from healthy alternatives in out-of-home catering; 5. Impulses for research: Research provides a scientifically sound basis for improving dietary and physical activity behaviour in Germany. Actions, e.g.: ■ basic research on physical activity and nutrition-related health is being expanded; ■ evaluation and quality assurance of primary prevention and health promotion measures are ensured through accompanying research and the provision of suitable instruments;	***Recommended measures for health targets (examples):*** 1. Diabetes: e.g., ■ population-wide, lifestyle-oriented prevention campaign for a healthy lifestyle; ■ screening of patients with defined risks for diabetes on the occasion of other outpatient contacts; 2. Tobacco consumption: e.g., ■ influence prices via the tobacco tax; ■ further implementation of the Framework Convention on Tobacco Control with regard to tobacco advertising and availability of tobacco products; ■ target-group-specific nationwide and regional educational measures; 3. Depression: e.g., ■ dissemination and further development of evidence-based, generally understandable information about the clinical picture and treatment options; ■ comprehensive, low-threshold counselling and support services for children of mentally ill parents; ■ expansion and coordination of regional alliances against depression; 4. Healthy ageing, e.g., ■ development of a municipal model that promotes physical activity; ■ develop, test, and implement evidence-based guidelines for common disease combinations and common comorbidities in older adults;
Specific interventions/ programmes (examples)	■ "Gut drauf": health promotion in the areas of nutrition, physical activity and stress regulation in all places where children and adolescents spend time (e.g., schools, recreational facilities) https://www.gutdrauf.net/ ■ "Fit im Alter": Improve nutritional knowledge and behaviour and thus health in old age https://www.fitimalter.de/ ■ "FIT KID: die Gesund-Essen-Aktion für Kitas": Support for kindergartens in the design of optimal catering and the integration of nutritional education https://www.fitkid-aktion.de ■ "Job & Fit": development of quality standards for company catering https://www.jobundfit.de	■ AgeQualiDe: Needs, utilisation of health care services, direct costs and health-related quality of life in GP patients > 85 yrs. https://gesundheitsziele.de ■ Depression in old age: needs, use of health care services and costs (AgeMooDe) https://gesundheitsziele.de ■ Evaluation of the internet-based behavioural therapy self-help programme (MoodGYM.de) for people with depressive disorders in inpatient care – a feasibility study https://gesundheitsziele.de ■ GLICEMIA – Recognise and prevent diabetes. Diabetes prevention concept for pharmacies https://www.wipig.de/ueber-uns/wissenschaft/publikationen

Switzerland

Table A-2: Main characteristics and implementation process of the included NCD strategies from Switzerland

Country, year [reference]	Switzerland, 2016 [32]	Switzerland, 2016 [46]
Title of the strategy/policy	National Strategy for the prevention of non-communicable diseases (NCD Strategy) 2017-2024 *[Nationale Strategie Prävention nichtübertragbarer Krankheiten (NCD-Strategie) 2017-2024]*	National Strategy Cardiovascular diseases, Stroke and Diabetes 2017-2024 *[Nationale Strategie Herz- und Gefäßkrankheiten, Hirnschlag und Diabetes]*
Publisher	Federal Office of Pulic Health *[Bundesamt für Gesundheit]* (BAG) and Swiss Conference of Cantonal Health Directors *[Schweizerische Konferenz der kantonalen Gesundheitsdirektor*innen]* (GDK)	Swiss Heart Foundation *[Schweizerische Herzstiftung]*, Swiss Society of Cardiology *[Schweizerische Gesellschaft für Kardiologie]*, Union of Vascular Societies of Switzerland *[Union Schweizerischer Gesellschaften für Gefäßkrankheiten]* and its member societies, Swiss Stroke Society *[Schweizerische Hirnschlaggesellschaft]* and the various diabetes organisations
Indications (NCDs)	Cardiovascular diseases, cancer, chronic respiratory diseases, diabetes, musculoskeletal diseases	Diseases of the heart and vascular system, stroke, diabetes
Focus: prevention/ management	Prevention + management	Prevention + management
Targets/aims/vision	***Vision:*** More people stay healthy or have a high quality of life despite chronic illness. Fewer people fall ill with preventable non-communicable diseases or die prematurely. People are empowered to maintain a healthy lifestyle in a health-promoting environment, regardless of their socio-economic status. ***4 overarching long-term goals:*** ■ reducing the increase in the burden of disease caused by NCDs ■ reducing the increase in costs due to NCDs ■ reducing premature deaths due to NCDs ■ maintaining and improving the performance and participation of the population in the economy and society ***6 specific targets:*** ■ reduction of behavioural risk factors ■ improvement of health literacy ■ further development of health-promoting framework conditions ■ improving equity in access to health promotion and prevention ■ reducing the proportion of the population at increased risk of contracting NCDs ■ improving health-related quality of life and reducing the need for long-term care	***Vision:*** Fewer people in Switzerland suffer from cardiovascular diseases, stroke or diabetes and their consequences. Those affected have a good quality of life and die prematurely less frequently. The strategy places itself at the service of the overarching long-term goals of the NCD strategy. ***Priorities of the strategy:*** ■ strengthen prevention and early detection ■ promote high-quality, integrated and patient-centred care for chronically ill and multimorbid patients ■ optimise acute care of heart attack and stroke ■ reinforce coordination and cooperation at all levels ■ improve the available data(bases) for Switzerland ■ close funding gaps and improve the health policy framework
Additional documents available?	■ Action Plan 2021-2024 [Massnahmenplan 2021-2024] ■ Indicator set for the NCD monitoring system [Indikatoren-Set für das Monitoring-System NCD] ■ Interim evaluation of NCD and addiction strategies [Zwischenevaluation Strategien NCD und Sucht 2017-2024]	-
Implementation process		
Time frame	2017-2024	2017-2024

Country, year [reference]	Switzerland, 2016 [32]	Switzerland, 2016 [46]
Involved stakeholders	■ BAG, GDK, Health Promotion Switzerland [Stiftung Gesundheitsförderung Schweiz] (GFCH) on behalf of Federal Council [Bundesrat] and Dialog Nationale Gesundheitspolitik ■ additional involved stakeholders: e.g., federal agencies, cantons, non-governmental and non-profit organisations, regional and national associations that are active in the respective topics, health professionals, …	■ CardioVasc Suisse ■ Supporting organisations for strategy development: Swiss Heart Foundation, Swiss Society of Cardiology, Union of Swiss Societies for Vascular Diseases and its members, Swiss Stroke Society, Swiss Society of Endocrinology and Diabetology, Swiss Diabetes Society and Swiss Diabetes Foundation ■ additional involved stakeholders in the steering group: representatives of general practitioners, BAG and the cantons (via the GDK)
Organisational framework conditions	■ NCD strategy serves as a **guiding framework** for all governmental and non-governmental stakeholders for their engagement in the prevention of NCDs; ■ definition of measures/actions by BAG, GDK and GFCH together with relevant stakeholders to be implemented from 2017 onwards; ■ the measures should be based on what already exists, allow continuity and strengthen common risk factor approaches as well as prevention approaches in health care; they can be focused on risk factors, on settings as well as on life stages; ■ an **NCD stakeholder conference** was established, which regularly addresses the implementation of the strategy and provides a platform for all stakeholders to exchange experiences; ■ a **strategic implementation committee** led by BAG, GDK and GFCH, together with representatives of other relevant stakeholders, will coordinate the implementation of the NCD strategy from 2017.	■ a **steering committee** coordinates the implementation of the strategy; ■ for the coordination and networking of the strategy implementation, a **coordination office** will be created that is embedded in the CardioVasc Suisse network; ■ the steering committee can set up **working groups** for thematically focused strategy areas; ■ at the level of each measure, a **lead organisation** has been identified that will take on the coordination function; ■ the planned measures will be prioritised and processed in a staggered manner depending on the available resources;
Monitoring/evaluation	■ quantification of the strategic objectives by defining target levels for each NCD aim, in order to analyse the effectiveness of the strategy; ■ **NCD monitoring system** will collect the relevant indicators and regularly report on the progress made towards achieving the targets; ■ **interim evaluation** in 2020 on the progress of the implementation of the strategy; ■ **detailed evaluation** of the implementation regarding relevance, efficiency, cost-effectiveness and sustainability in 2023; ■ if required, specific project evaluations can also be carried out.	■ a monitoring and evaluation concept defines the indicators, processes and interfaces of responsibilities; ■ the coordination office is responsible for the periodic monitoring of the implementation of the measures and the achievement of the goals at the joint level ■ process monitoring for specific measures is carried out in consultation with those responsible for the disease groups.
Funding	Mixed funding: ■ Health Promotion Switzerland [*Gesundheitsförderung Schweiz*, GFCH]: each insured person makes an annual contribution to disease prevention; these funds are mainly used for prevention programmes and projects in the areas of NCDs and mental health. ■ Tobacco prevention fund [*Tabakpräventionsfonds*, TPF]: the TPF is financed by the levy of a share per packet of cigarettes sold; the TPF initiates and finances tobacco prevention programmes and projects that are coordinated and implemented by the cantons. ■ *Alkoholzehntel*: the cantons receive 10% of the net revenue from the alcohol tax; the cantons use this money to combat the causes and effects of addiction problems. ■ Cantons: the cantons finance prevention and health promotion activities with funds from the regular budget and the revenue from the alcohol tax, and with contributions from GFCH and the TPF. ■ Federal government [*Bund*]: The available funds finance coordination and communication activities, managing working groups or expert support.	■ the lead organisations are responsible for the human and financial resources for the respective measure; ■ within the scope of their possibilities, all organisations involved in a measure contribute with resources to the implementation; ■ if resources are insufficient, they jointly seek additional funding from external financing partners (for example, from the federal government and cantons, insurers and industry).

Country, year [reference]	Switzerland, 2016 [32]	Switzerland, 2016 [46]
Actions/activities to reach the aims/objectives of the strategy	**Measures in 3 areas of action (examples for activities):** ***1. population-based health promotion and prevention:*** ■ strengthen tobacco and alcohol prevention as well as the promotion of physical activity and balanced nutrition (e.g., cantonal prevention programmes, case examples with a focus on health equity) ■ specifically address children and young people as well as adults and older people (e.g., health promotion and prevention in early childhood, tobacco prevention programme for children and adolescents, healthy ageing projects, healthy diet and exercise in all life stages) ■ identify success factors for cantonal prevention programmes (definition of evidence-based success factors for cantonal programmes for the prevention of NCDs and addictive diseases and the promotion of mental health) ***2. prevention in health care, e.g.:*** ■ promote projects to strengthen prevention in health care ■ train and educate health professionals (e.g., training of medical professionals on prevention programmes) ■ strengthen the self-management of people with chronic conditions and their relatives (e.g., annual platform forum on self-management) ■ promote the use of new technologies (e.g. development of an internet portal to promote mobile health applications) ***3. prevention in the economy and working environment, e.g.:*** ■ establish institutional cooperation in the field of occupational health management (e.g., development of a platform to promote coordination, exchange and collaboration of institutions that are active in occupational health management) ■ further develop cooperation with the economy and facilitate healthy choices (e.g., promotion of the voluntary food labelling "Nutri-Score"; promotion of fruit and vegetable consumption among the population with the "5 a day" campaign)	***3 fields of action:*** ***1. Prevention and early detection*** ■ population-oriented prevention and health promotion programmes and education measures within the framework of the NCD strategy (e.g. reduce behavioural risk factors and promote healthy lifestyles, strengthen health literacy, promote equity by addressing the specific needs of vulnerable groups) ■ structural prevention/political lobbying and representation of interests (e.g., promote physical activity-friendly urban areas, reduction of sugar, salt and fat in food, introduce food labelling, create incentives for healthy behaviour) ■ develop, adapt and disseminate evidence-based, nation-wide practice recommendations for early detection of key risk factors ■ introduce person-centred counselling in the care system to promote health literacy and healthy lifestyles and better manage risk factors ■ promote low-threshold counselling and early detection of cardiovascular risk factors and diabetes by qualified staff ***2. Needs-based care (patients and environment)*** ■ implement concepts for patient-centred, coordinated care (e.g., pilot projects, promote the Shared Decision Making approach, take into account the specific needs of multimorbid patients) ■ increase the involvement of non-medical professionals in the training, monitoring and other tasks of long-term, patient-centred care for people with chronic conditions (e.g., develop recommendations for the deployment of non-medical professionals with appropriate qualifications and competences) ■ promote common education and training of professionals for multidisciplinary and interprofessional care coordination (taking into account the mental dimension of chronic diseases and the better cooperation between professionals in the care system) ■ promote regional networking of existing services in the areas of cardiovascular prevention and rehabilitation ■ adapt offers in the areas of patient education/self-management/self-help, involving organisations of those affected and taking into account modern technologies ■ support patients in their daily lives through adequate communication (including modern communication technologies) ■ promote palliative care for patients with incurable chronic diseases and support family members ■ promote training for the multidisciplinary care team in the palliative care of patients with advanced, incurable chronic diseases ***3. Data, quality and financing, e.g.,*** ■ monitoring and reporting of the impact indicators relevant to this strategy ■ participate in initiatives that help to prevent overuse, underuse and misuse of patient care Additionally, specific strategic priorities regarding heart diseases, vascular diseases, stroke and diabetes, are listed in the strategy (see pages 37-47).

Country, year [reference]	Switzerland, 2016 [32]	Switzerland, 2016 [46]
Specific interventions/ programmes	■ "Girasole" (Tessin): „Gesundheitscoaching-KHM" http://www.gesundheitscoaching-khm.ch/de and „PAPRICA" www.paprica.ch ■ "EviPrev": Evidence-based prevention in primary health care, www.eviprev.ch ■ "Evivo": Self-management with chronic illness, www.evivo.ch	■ Pilotprojekt Opti-Q Multimorbidität (QualiCCare), https://qualiccare.ch/ ■ Herz-Check in Apotheken, https://www.swissheart.ch

Netherlands

Table A-3: Main characteristics and implementation process of the included NCD strategy from the Netherlands

Country, year [reference]	■ The Netherlands, 2013 [52]
Title of the strategy/policy	All about health ... The National Prevention Programme 2014-2016
Publisher	Dutch government
Indications (NCDs)	chronic illness/public health in general
Focus: prevention/management	prevention
Targets/aims/vision	**long-term objectives** to be met by 2030 (3 focal points): ■ to promote **individual health** and **prevent chronic illness** by means of an **integrated approach** within the settings in which people live, work and learn. ■ to give **prevention** a prominent place within healthcare ■ to maintain the **quality of health protection**, responding promptly to any new threats. further: ■ the programme will establish the necessary **preconditions** and form the framework within which the various activities and initiatives will achieve a permanent effect ■ it will form the connective tissue between those activities, facilitating **cooperation** and promoting **synergy** ■ focus on groups with greatest **health risks**, e.g., people with lower/basic educational qualifications (long-term aim: significant reduction in the discrepancy of life expectancy and healthy life expectancy between the demographic subgroups)
Additional documents available?	-
Implementation process	
Time frame	2014-2016 (long-term objectives to be met by 2030)
Involved stakeholders	■ Government, ministries ■ local authorities ■ various non-governmental (social) organisations (and existing partners) ■ primary health care providers ■ health insurers
Organisational/structural framework conditions	■ the programme will run for a period of 3 years, for which formal agreements and output targets will be established ■ the **government** will work alongside the **partners**, benefiting from their expertise, ensuring that the successes are given due prominence and that the concept of **effective prevention** achieves widespread support ■ establish a small **programme bureau** with the help of the partners, which will oversee adherence to arrangements, thus ensuring that project information, results, and the lessons learnt are readily available to all ■ regular **meetings** with all partners, e.g., conferences, informal discussions

Country, year [reference]	■ **The Netherlands, 2013 [52]**
Organisational/structural framework conditions *(continuation)*	■ the programme unites **organisations** and **individuals** in pursuit of a common ambition, which inspires them to take direct responsibility and to implement activities that will help to achieve that ambition ■ the programme will recruit **role models** and **'ambassadors'** who are able to support its ambition ■ the programme **adopts** previous 'All about health as the National Prevention'; the overall scope of **prevention activities** is set out in previous policy documents ■ **consistent approach:** adherence to the so-called spearheads established in previous policy documents, i.e., smoking, alcohol, overweight, depression, diabetes, overweight/obesity, physical activity ■ adopting **methods** and **procedures** which provide full **transparency** with regard to activities and results (incl. lessons learnt for adjusting strategy as necessary) ■ each project plan describes precisely how progress and results are to be **reported** and **disseminated** **Principles:** ■ emphasis on **prevention** as a long-term undertaking ■ broad and fully **integrated approach** acknowledged by all partners ■ opportunities for synergy between health and other societal objectives ■ emphasis on '**actions** rather than words' ■ **decentralisation:** from central government to local authorities ■ **focus** primarily on those settings in which **unhealthy behaviour** is particularly common
Monitoring/evaluation	■ each of the spearheads is to be subject to monitoring against **key performance indicators**; ■ alongside the long-term objectives, the results be achieved in each domain by 2016 have been agreed, and wherever possible in the form of a **measurable 'output target'**; ■ **each partner** will be directly **responsible** for the activities and results in its own domain and will be **accountable** to the other partners and to society at large (→ no single party 'in charge', making all decisions and monitoring progress)
Funding	■ all partners/parties: direct investment in the National Prevention Programme from their own resources and within their mission, remit and accountability structure ■ Ministry of Health, Welfare and Sport: expenditure on prevention activities which are relevant to this programme → Appendix of the strategy ■ other ministries will account to parliament by means of the standard budgetary procedures

Actions/activities to reach the aims/ objectives of the strategy	Focus on 3 areas/strands:
	■ **'Health close by, vital people in a healthy environment'** will seek to improve health and prevent chronic illness or infirmity by means of an integrated approach in the setting in which people live, work, and learn
	  ■ A healthy start: family and school (e.g. Healthy School Programme to promote a healthy lifestyle among children and adolescents)
	  ■ Living in a healthy neighbourhood and a healthy environment (all public spaces should be designed with health interests in mind)
	  ■ Working is healthy and healthy working can be improved (e.g., ensure the long-term employability of every worker; special attention for employees with a disability or chronic condition; focus on work-related stress)
	■ Giving **prevention** a **prominent** place in **healthcare**
	  ■ e.g., give attention to social functioning of patients; improve cooperation and networking of local care providers to achieve tangible health gains; focus on good coordination and management at the local (neighbourhood) level, as well as ways in which healthcare professionals can support prevention in the workplace; improve early identification of at-risk patients; prevention of overweight in children; improve the health of (prospective) mothers and newborn babies; prevention of depression
	■ **Maintaining health protection**, responding promptly to any new threats
	  ■ e.g., special attention to zoonoses, antibiotic resistance, the National Vaccination Programme, food safety, reduction of physical and mental strain at work, and a healthy (human) environment

Specific interventions/ programmes (examples)	■ PIE=M study (Physicians Implement Exercise = Medicine; prescription of physical activity in clinical care) ■ INTEGRATE study: effectiveness and cost-effectiveness of a cardiometabolic risk assessment and treatment program integrated in primary care ■ Evaluation of the Netherlands National Program on Elderly Care https://www.researchgate.net/project/Evaluation-of-the-Netherlands-National-Program-on-Elderly-Care ■ Health impact of area-based interventions in Dutch deprived neighbourhoods: the URBAN40 study https://academic.oup.com/eurpub/article/24/suppl_2/cku164-044/2839471

Finland

Table A-4: Main characteristics and implementation process of the included NCD strategy from Finland

Country, year [reference]	Finland, 2020 [43]
Title of the strategy/policy	National Mental Health Strategy and Programme for Suicide Prevention 2020-2030
Publisher	Ministry of Social Affairs and Health
Indications (NCDs)	Mental health
Focus: prevention/management	Prevention + management
Targets/aims/vision	**Aim:** ***n.r.*** **5 focus areas:** ■ mental health as human capital; ■ mental health for children and young people; ■ mental health as a right; ■ appropriate, broad-based mental health services; ■ mental health management.
Additional documents available?	-
Implementation process	
Time frame	2020-2030
Involved stakeholders	■ Ministry of Social Affairs and Health ■ Finnish Institute for Health and Welfare ■ cooperation with other authorities, organisations, municipal agencies, primary health care services, …
Organisational framework conditions	■ the Ministry of Social Affairs and Health will implement the proposals of the Mental Health Strategy as of 2020 ■ the Finnish Institute for Health and Welfare will plan the implementation and coordination of the Programme for Suicide Prevention ■ services will be developed as part of the Future Health and Social Services Centres programme ■ the aim is for evidence-based, early-intervention approaches to be in use within primary health care services by 2022 ■ the implementation of mental health services as part of regular services at primary health and social services centres also enables the development of models for implementing social welfare services, and supports the provision of equitable somatic health care for people with mental disorders; ■ the aim is to develop collaboration between municipalities, different sectors and administrations via increased mental health literacy; this collaborative structure also serves to support projects and capacity building initiatives within municipal and non-governmental organisations;
Monitoring/evaluation	■ a number of indicators are proposed for the implementation of the Mental Health Strategy and related policies; most of them are already available, but some would have to be separately constructed; ■ examples of proposed indicators: positive mental wellbeing (measured by the Warwick-Edinburgh mental well-being scale), loneliness in different age groups, occupational burnout, work engagement (e.g., Quality of work life survey), prevalence of mental health problems and substance use in young people, prevalence of severe bullying, unstable living environment, experience of discrimination, mental health service use, ...
Funding	■ Ministry of Social Affairs and Health

Country, year [reference]	Finland, 2020 [43]
Actions/activities to reach the aims/objectives of the strategy	**Proposals for accomplishing goals of the guideline:** 1. Mental health as human capital: e.g., ■ increasing mental health literacy and skills in early childhood education/schools (through specific projects and curriculum development), in the workplace (via training and programmes supporting leadership and periods of transition), in services for older adults (via additional training and programmes), ■ improving communal wellbeing in residential areas; increasing activities that reduce loneliness, encourage togetherness, and support people to engage in activities together; ■ identifying unique risks related to digitalisation (such as online bullying), and taking advantage of opportunities (such as peer support, social inclusion); ■ ensuring that the non-governmental organisations and voluntary activities which support positive mental health are provided with statutory and financial support; ■ launching research and development actions investigating how mental health as a resource can be looked after in the context of societal and environmental changes; 2. Developing positive mental health in the daily lives of children and young people: e.g., ■ creating structures for the development, implementation, maintenance and restoration of practical help for families via legislative process in order to reduce poverty in families, create benefits and support parenting; ■ introducing age-appropriate support for children and young people in their local environments, child health clinics, and other social and healthcare services; ■ developing a more family-friendly working life; ■ ensuring that children and young people get versatile opportunities for engaging in recreational activities based on their interest, via legislative and quality regulation where necessary; ■ systematically supporting inclusion of children and young people in their peer groups and protecting them against bullying, substance use and other forms of risky behaviours within peer groups and on social media; ■ ensuring sufficient available resources and coordinated collaboration for maternity and child health clinics, pupil and student welfare services, and primary health and social services for children and young people to carry out mental health support; furthermore, in addition to preventive work, brief interventions should be available for people in difficult life situations or crisis; 3. Mental health rights: e.g., ■ launching a national programme against discrimination and stigma related to mental health and substance abuse disorders; ■ updating quality criteria and establishing a quality register for monitoring housing services and other support services used by people with mental health and substance abuse disorders; ■ planning measures for reducing the effects of poverty and inequality for individuals and families; 4. Broad-based services that meet people's needs: e.g., ■ increased resources for mental health services in primary health and social care, including resources for capacity building for workers; developing collaboration and guidelines to help for specialised services to support primary services; ■ launching a development programme for promoting physical health and ensuring somatic healthcare for people with mental and substance abuse disorders (also covering oral health); ■ improving access to psychosocial interventions and organising their provision regionally as appropriate; ■ utilising evidence-based approaches in promotion and preventative work within social and healthcare services and assessing their effectiveness in Finland; ■ developing accessible and versatile services which can be provided in the context of the clients' everyday surroundings, particularly for people who are difficult to reach, at risk of social exclusion, or groups who are vulnerable due to their cultural or social status; outreach services will be used to reach those who are particularly difficult to reach; 5. Good mental health management: e.g., ■ strengthening collaborative structures in various administrative branches and organisations and within the Government and central government, counties and municipalities in fostering work on mental health; ■ agreeing on the measures, indicators and tools for assessing the impact of societal decisions on mental health; ■ establishing a digital information centre for effective mental health promotion and prevention of mental health problems;

Country, year [reference]	Finland, 2020 [43]
Actions/activities to reach the aims/objectives of the strategy *(continuation)*	■ enhancing management training and assessment of mental health actions as part of training modules for management and evaluation; ■ creating clear operative models for the division of duties in relation to available services in different sectors, stipulating collaboration and identification of essential resources, cost accountability and compensation mechanisms in this context; ■ developing the knowledge base and making it more accessible in order to better assess actual need for services instead of monitoring and assessing the use of services; this necessitates knowledge of the prevalence of mental health symptoms, mental health disorders, and predisposing factors among the general population, on a regional level and in specific groups; ■ effectiveness and impact assessment directs service system development and selection of appropriate actions; ■ the Strategic Research Council prepares a research programme supporting the implementation of the Mental Health Strategy; ■ monitoring implementation of the Mental Health Strategy using a specific set of indicators;
Specific interventions/ programmes (examples)	■ research-based Individual Placement and Support (IPS) model of supported employment ■ examples of measures taken in accordance with the Mental Health Strategy (no further information available): ■ training initiatives for mental health promotion ■ preventive and therapeutic interventions in the social and healthcare service system and the related organisations such as school environments (e.g., improving the availability of brief psychotherapy) ■ a digital database of actions for mental health promotion and prevention of mental health problems (compiling evidence-based approaches in a database) ■ targeted programmes for social and healthcare, other areas of the service system, or elsewhere in society, e.g., anti-discrimination programmes, development programmes for improving physical health, anti-stigma programmes (activities carried out under the programme: data collection, selecting target groups, formulating messages for each target group, raising awareness in target groups, establishing the work in the regular activities by the target groups, monitoring results)

UK

Table A-5: Main characteristics and implementation process of the included NCD strategies from the UK

Country, year [reference]	UK (England), 2013 [53]	UK (England), 2011 [54]	UK (England), 2011 [55]	UK (North Ireland), 2016 [48]
Title of the strategy/policy	Cardiovascular Disease Outcomes Strategy. Improving outcomes for people with or at risk of cardiovascular disease	An Outcomes Strategy for Chronic Obstructive Pulmonary Disease (COPD) and Asthma in England	No health without mental health. A cross-government mental health outcomes strategy for people of all ages (England)	A Diabetes Strategic Framework
Publisher	Department of Health	Department of Health	Department of Health	Department of Health
Indications (NCDs)	Cardiovascular diseases (including coronary heart disease, stroke, hypertension, hypercholesterolemia, diabetes, chronic kidney disease, peripheral arterial disease and vascular dementia)	Chronic respiratory diseases (COPD + asthma)	Mental health	Diabetes
Focus: prevention/ management	Prevention + management	Prevention + management	Prevention + management	Prevention + management

Country, year [reference]	UK (England), 2013 [53]	UK (England), 2011 [54]	UK (England), 2011 [55]	UK (North Ireland), 2016 [48]
Targets/aims/vision	The government has committed to improving health and social care outcomes across the population. This outcome strategy ■ looks at those aspects of CVD where there is most opportunity to improve outcomes; and ■ sets out what difference action in these areas might make and how these improvements might be delivered.	**Aim:** to improve services for people with COPD and asthma, and to narrow health inequalities **6 objectives:** 1. to improve respiratory health and well-being of all communities and minimise inequalities between communities. 2. to reduce the number of people who develop COPD by ensuring they are aware of the importance of good lung health and wellbeing, with risk factors understood, avoided or minimised, and proactively address health inequalities. 3. to reduce the number of people with COPD who die prematurely through a proactive approach to early identification, diagnosis and intervention, and proactive care and management at all disease stages, with a particular focus on disadvantaged groups and areas with high prevalence. 4. to enhance quality of life for people with COPD, across all social groups, with a positive, enabling experience of care and support right through to the end of life. 5. to ensure that people with COPD, across all social groups, receive safe and effective care, which minimises progression, enhances recovery and promotes independence. 6. to ensure that people with asthma, across all social groups, are free of symptoms because of prompt and accurate diagnosis, shared decision making regarding treatment, and ongoing support as they self-manage their own condition and to reduce need for unscheduled health care and risk of death.	The Strategy sets out how the Government, working with all sectors of the community and taking a life course approach, will ■ improve the mental health and wellbeing of the population and keep people well; and ■ improve outcomes for people with mental health problems through high-quality services that are equally accessible to all **6 high-level mental health objectives:** 1. More people will have good mental health 2. More people with mental health problems will recover 3. More people with mental health problems will have good physical health 4. More people will have a positive experience of care and support 5. Fewer people will suffer avoidable harm 6. Fewer people will experience stigma and discrimination **3 main guiding principles:** 1. freedom (reaching our potential; personalisation and control) 2. Fairness (equality, justice and human rights) 3. Responsibility (everyone playing their part and valuing relationships)	**Aim:** to realise a vision of care that *improves outcomes* for people living with diabetes or at risk of developing diabetes, including services that are: ■ evidence-based and co-designed with people living with diabetes to achieve best clinical outcomes ■ person-centred and encouraging self-management ■ seamless from the service user perspective, responsive and accessible **Shared focus:** achieving better outcomes for people living with diabetes, better care for individuals, better use of resources and the necessary support for staff to deliver consistently excellent care. **7 key themes:** ■ A Partnership Approach to Service Transformation – Clinical Leadership and User Involvement ■ Supporting Self-management – Empowering People through Structured Diabetes Education ■ Prevention, Early Detection and Delaying Complications ■ Using information to Optimise Services and Improve Outcomes for People Living With Diabetes ■ Services for People Living with Diabetes, Particularly Those Requiring Complex Treatment and Care ■ Enhancing the Skills of Frontline Staff ■ Encouraging Innovation
Additional documents available?	-	■ An Outcomes Strategy for COPD and Asthma: An Assessment of the **Impact on Equality**, 2011	■ No Health Without Mental Health: Delivering Better Mental Health Outcomes for people of all ages (detailed **analysis of available indicators** for each objective), 2011 ■ No Health without Mental Health: a **call to action**, 2011 ■ No Health without Mental Health – **impact assessment**, 2011 ■ No Health without Mental Health – Analysis of the **Impact on Equality**, 2011	■ Health and Wellbeing 2026: Delivering Together (**complementing strategy**)

Country, year [reference]	UK (England), 2013 [53]	UK (England), 2011 [54]	UK (England), 2011 [55]	UK (North Ireland), 2016 [48]
Implementation process				
Time frame	-	2011-2013	2011-2012	2016-2026 („over the next 10 years“)
Involved stakeholders	■ Government ■ Department of Health (DH) ■ National Health Service (NHS) ■ Public Health England (PHE) ■ local authorities (LAs) ■ NHS Commissioning Board (CB) incl. NHS Improving Quality (NHS IQ) ■ clinical commissioning groups (CCGs) ■ health care professionals ■ industry ■ charities ■ patients and carers ■ the public	■ Department of Health ■ National Health Service Commissioning Board (providers from the public, private and voluntary and community sectors and members of the local community) ■ Public Health England ■ Respiratory Programme Board: professional bodies, commissions, provider organisations, voluntary and community sector, people with COPD and asthma and their carers	■ Partner/local organisations ■ Employers ■ user and carer representatives ■ service users ■ professional groups ■ providers ■ local government and government departments	The Diabetes Network: ■ service users and their representatives ■ representatives of the clinical and professional disciplines ■ other senior managers and leaders who can facilitate and support transformative change
Organisational/structural framework conditions	■ the Strategy provides advice to local authority and NHS commissioners and providers about actions to improve cardio-vascular disease outcomes; it identifies 10 key actions to improve outcomes ■ the strategy sets out possible actions within the current legislative framework, systems architecture and financial settlement to deliver improved outcomes ■ the focus has been on what **needs to be done** to improve outcomes in relation to delivering the commitments in the **Public Health, NHS** and **Adult Social Care Outcomes Frameworks**. ■ strategy shows how the new health and care **system** can be **used** to drive **improved outcomes** in line with the NHS, Public Health and Adult and Social Care outcomes frameworks. ■ **Future roles and responsibilities:** ■ the DH will work closely with industry and other stakeholders to promote healthier lifestyle choices; keep evidence under review and consider the need for further legislation as appropriate	■ this strategy spells out the Coalition Government's commitment to improving services for people with COPD/asthma ■ to achieve this, the Government has agreed on 6 high-level objectives to improve out-comes for people with COPD and asthma. ■ it signals a call to action to the whole health and social care system, professionals, people with COPD, the voluntary sector and the public to "REACT" (see below) ■ pro-active approach to tackling health inequalities since there is a social gradient in the prevalence of COPD/asthma and its risk factors ■ transparency in outcomes sets proposed high-level ambitions for health improvement, protection and the prevention of ill health ■ accountability is a key driver of the current reforms; the public sector, including the public health, the NHS and social care organisations, has a responsibility to the public and users of services to deliver on these outcomes ■ local action will be supported by a sustained, cross-government approach	■ this strategy spells out the coalition Government's commitment to improving mental health and mental health services ■ it sets out how actions across government will help to deliver better mental health outcomes; it is more than a service implementation plan; it seeks to promote a transformation in public attitudes towards mental health ■ Changes by putting more **power** into people's hands at a **local level** to ensure effective planning and commissioning of services that meet locally agreed needs → people/communities are able to take more **responsibility** for their own wellbeing ■ **local action** will be supported by a **sustained, cross-government approach**; led by Cabinet sub-Committee on Public health, who will oversee the implementation of the strategy	■ the Diabetes Network will bring together **decision-makers** and facilitates the vision of this framework; it will be responsible for the implementation of the Strategic Framework ■ its work programme will span not just the **design of treatment and care services** for people living with diabetes but also **primary and secondary prevention**, it will concern itself with **inequalities** and variation in outcomes and experience amongst service users ■ clear **purpose** of the Network: "to lead the improvement of care for all people with all types of diabetes and those at risk of developing diabetes" ■ the Network will have 2 interconnected spaces: one focusing on innovation and the other focusing on improvement, implementation and delivery

Country, year [reference]	UK (England), 2013 [53]	UK (England), 2011 [54]	UK (England), 2011 [55]	UK (North Ireland), 2016 [48]
Organisational/structural framework conditions *(continuation)*	■ the PHE will work with Las to maximise the impact of NHS Health Checks; work with partners across all sectors to develop lifestyle support that will prevent and modify CVD, and maximise health and wellbeing at all stages of disease ■ LAs will be responsible for full roll-out of NHS Health Check; engage with their local populations to deliver health improvements; take actions on the wider determinants of health; engage with the NHS on CVD outcomes through health and wellbeing boards ■ the NHS CB will be responsible for commissioning primary care services; directly commission specialised cardiovascular services; support Clinical Commissioning Groups in their development ■ CCGs will commission all health services other than primary care and specialised services, in line with NICE guidance; work with the NHS CB to support improvements in primary care services; engage with Las on cardiovascular outcomes through health and wellbeing boards ■ Commissioning Support Units will support CCGs by providing practical support to redesign and implement pathways to improve outcomes; assisting in engaging patients and the public	■ the Department of Health has established a **Respiratory Programme Board**, which will work in partnership with stakeholders to provide help and advice to realise this strategy ■ the Board brings together professional bodies, commissioners, provider organisations, the voluntary and community sector and the views of people with COPD and asthma and their carers ■ the Board will bring partners together to help drive forward strategy's implementation	■ Government will establish **Mental Health Strategy Ministerial Advisory Group,** which will work to realise this strategy; it will **bring together** the new NHS Commissioning Board and Public Health England with GP consortia, the local Government Association, the Association of directors of Adult Social Services, the Association of Directors of Children's Services, other government departments, the Care Quality Commission, Monitor, professional bodies, commissioners, mental health provider organisations, the voluntary and community sector, and people with mental health problems and carers ■ between 2011 and 2012, while the NHS Commissioning Board and Public Health England are being established, this group will identify actions in the transitional year for implementing this mental health strategy; the Government will review the function of this group for 2012 onwards, once the NHS Commissioning Board and Public Health England are in place ■ Action at local and national levels to implement this strategy will only be effective if there is sustained partnership working across all sectors; the Ministerial Advisory Groups will be the locus for achieving this	■ the **implementation plan** reflects the recommendations in the Strategic Framework and represents the current understanding of the initial priorities to be addressed in the first years of implementation; it provides the starting point for the work of the Diabetes Network (specifies lead responsibility and timescale for each action within the 7 key themes)
Monitoring/evaluation	■ **Department of Health** will monitor **performance** against the **Outcomes Frameworks**, using them to set direction and drive improvement in outcomes and holding the NHS to account for improvements required. ■ **Public Health England** will monitor **progress** on cardiovascular diseases at **population level**. ■ **NHS CB** will be responsible for delivering the outcomes set out in the Government's Mandate and measured by the NHS Outcomes Framework; and will monitor **progress** on **cardiovascular diseases** within the NHS.	Between 2011 and 2013, while the NHS Commissioning Board and Public Health England are being fully established, the Programme Board will bring partners together to help drive forward implementation of this strategy. The Department will **review the function of the Programme Board** for 2013 onwards, once the NHS Commissioning Board and Public Health England are fully established.	■ 'Time to Change' already uses a range of indicators to measure change in attitudes to mental health in the general population, among employers and in the experience of people with mental health problems; we will work with 'Time to Change' to agree on the best ways to assess improvements over the lifetime of this strategy, including an annual attitudes survey ■ **Quality Accounts:** reports on the quality of services published annually by providers of NHS care; are intended to enhance accountability to the public	■ there will be an **ongoing programme of work** that will be **reviewed** and updated regularly ■ the **effectiveness** and **impact** of this Strategic Framework will be measured **by improvement in outcomes** that matter to people living with diabetes, by their experience of care and by more efficient use of resources; it will be measured by reductions in, and delay to, the onset of complications in those most at risk, and by the extent to which unwarranted variation within and between services is reduced ■ participation in the National Diabetes Audits will help identify where to focus improvement effort

Country, year [reference]	UK (England), 2013 [53]	UK (England), 2011 [54]	UK (England), 2011 [55]	UK (North Ireland), 2016 [48]
Monitoring/evaluation *(continuation)*	**Responsibilities for improvements: actions** will/could be taken by Department of Health, Public Health England, NHS Commissioning Board (CB) including NHS Improving Quality, clinical commissioning groups and local authorities.		■ **3 outcomes frameworks** have been developed: for the NHS, public health and adult social care → to track national progress against an agreed range of critical outcomes; outcomes will be refined on an annual basis ■ e.g., the Public Health Outcomes Framework proposes a number of national-level indicators to help local health and wellbeing boards and local communities track progress	■ a number of draft indicators to enable to track progress were identified; systems and processes will be developed to be able to reliably report progress against these key indicators in the future
Funding	n.r. (This outcomes strategy has been developed on the basis that overall there will be no new funding available. The current financial situation has been seen by most stakeholders as both a challenge and opportunity. Those working and being cared for in the NHS are actively looking for ways to use the resources more efficiently without comprising quality)	National Health Service	funding for specific programmes, e.g., by Department of Health, Department for Education, Department for Work and Pensions	n.r. (over time, the Network should have autonomy over a specific budget for delivery of key elements of the implementation plan)
Actions/activities to reach the aims/objectives of the strategy	10 key actions that will deliver improvements in patient outcomes: **Action 1:** NHS Improving Quality (NHS IQ) will work with all relevant interests to develop and evaluate service models to manage CVD as a family of diseases, in the community and in hospital; NHS IQ will develop and test a standardised template that can be used in hospitals and in the community, and incorporated into service specifications, to assess fully patients with CVD. **Action 2:** Building on previous work from the Public Health Observatories, Public Health England (PHE) – working with the NHS CB and Health and Social Care Information Centre (HSCIC) – will make available benchmarked data about CVD risk factors and progress in tackling them, incl. data on NHS Health Check uptake, the problems identified, interventions offered, and outcomes. **Action 3:** NHS IQ will work with PHE, local authorities (LAs) and the NHS to support the successful implementation of the NHS Health Check programme.	**Examples for actions:** **Objective 2** (to reduce the number of people who develop COPD): ■ developing prevention strategies for respiratory disease, ■ raising awareness of good lung health, ■ persuading the public to take lung health seriously, ■ ensuring employers (particularly those in 'at risk' environment) are doing all they can to protect staff and encourage good lung health, ■ empowering partners/communities to support the process of encouraging prevention **Objective 3/4/5:** REACT = key feature of the national effort: ■ R is for Respiratory Health and the importance of good lung health and greater awareness of the symptoms of respiratory disease	**Examples for key areas of actions:** **Objective 1** (more people will have good mental health): ■ to ensure a good start in life ■ to reduce the social and other determinants of mental ill-health across all ages, and the inequalities that can both cause and be the result of mental health problems (e.g., social isolation) **Objective 2** (more people with mental health problems will recover): ■ to identify mental health problems and intervene early across all age groups ■ to ensure equity of access for all groups, including the most disadvantaged and excluded to high-quality, appropriate, comprehensive services ■ to build care and support around outcomes that matter to individuals to enable them to live the lives they want to live, including good relationships, purpose, education, housing and employment	**Examples for initial priorities:** **Key theme 1** (partnership approach to service transformation): ■ establish a **Diabetes Network** to support the transformation of services for people living with diabetes through co-production and co-design ■ identify priorities for a work programme ■ ensure that clinicians and patients are actively involved in decision-making about service development **Key theme 2** (supporting self-management): ■ agree a menu of quality assured Structured Diabetes Education (SDE) programmes, consistent with NICE criteria ■ establish a plan for the delivery of SDE programmes with the goal that all newly diagnosed people with diabetes can be offered SDE within 6-12 months of diagnosis or when appropriate to their circumstances ■ explore the role of digital technology and social media in self-management

Country, year [reference]	UK (England), 2013 [53]	UK (England), 2011 [54]	UK (England), 2011 [55]	UK (North Ireland), 2016 [48]
Actions/activities to reach the aims/objectives of the strategy *(continuation)*	**Action 4:** NHS CB will work with interested parties to develop new tools to support case finding in primary care. NHS IQ and Strategic Clinical Networks will provide support to GP practices that have low detection rates for CVD. **Action 5:** The NHS CB will take the lead, working with the Chief Coroner as appropriate, to improve the processes for identifying inherited cardiac conditions. The National Clinical Director for Heart Disease will work with all relevant stakeholders to develop/spread good practice in relation to FH and sudden cardiac death. **Action 6:** The NHS CB will work with stakeholders to identify how to incentivise and support primary care consistently to provide good management of people with or at risk of CVD; incl. Department of Health (DH) ask NICE to review the relevant QOF indicators and promoting primary care liaison with local authorities, the third sector and PHE to ensure optimal provision of prevention services, including secondary prevention. **Action 7:** To improve acute care: ■ NHS CB will work with Resuscitation Council, British Heart Foundation and others to promote automatic external defibrillators (AED) site mapping/registration and first responder programmes by ambulance services and consider ways of increasing numbers trained in cardiopulmonary resuscitation (CPR) and using AEDs; ■ PHE will continue to raise awareness of the signs and symptoms of CVD by running campaigns such as Act FAST and trialling new campaigns; ■ all CVD patients should have access to what is recognised as the right treatment. This includes specialist teams and 24/7 services where appropriate. NICE guidelines provide evidence for what is the right treatment, and clinical commissioning groups (CCGs) will wish to use these to help inform their commissioning intentions in this area. NHS IQ, working with the Strategic Clinical Networks, will build on NHS Improvement's previous work to support commissioners and providers to deliver the right services.	■ E is for Early accurate diagnosis and assessment of severity to ensure late diagnosis is minimised, risks are reduced through better-informed people, effective interventions can begin and late diagnosis is minimised ■ A is for Active Partnership between healthcare professionals and people with COPD to be partners in care, to self manage their condition and to exercise choice in the treatment they receive and where it is delivered ■ C is for Chronic disease management and proactive management of all disease severities and any co-morbid conditions and responsive episodic care provided around the needs of the patient ■ T is for Tailored evidence-based treatment for the individual and the evidence-based use of all pharmacological and non-pharmacological interventions tailored to individual choice and benefit and linked to regular review	■ to offer people age- and developmentally-appropriate information, and a choice of high-quality evidence and/or good practice-based interventions, including psychological therapies ■ to ensure that all people with severe mental health problems receive high-quality care and treatment in the least restrictive environment, in all settings ■ to work with the whole family, using whole-family assessment and support plans where appropriate **Objective 3** (more people with mental health problems will have good physical health): ■ fewer people with mental health problems should have poor physical health ■ fewer people with mental health problems should die prematurely ■ fewer people with physical ill-health, including those with long-term conditions and medically unexplained symptoms, should have mental health problems **Objective 4** (more people will have a positive experience of care and support): ■ services should be designed around the needs of individuals, ensuring appropriate, effective transition between services when necessary, without discriminatory, professional, organisation or location barriers getting in the way ■ wherever possible, services should listen to and involve carers and others with a valid interest and provide them with information about a patient's care to ensure that confidentiality does not become an obstacle to delivering safe services **Objective 5** (fewer people will suffer avoidable harm): ■ people receiving care and support should have confidence that the services they use are of the highest quality and at least as safe as any other public service	**Key theme 3** (prevention, early detection and delaying complications): ■ establish an approach to the prevention of Type II diabetes for the north of Ireland which is compatible with emerging evidence ■ provide better information, advice and support to help people at increased risk minimise and manage those ■ implement a foot care pathway ■ agree appropriate risk stratification in diabetes care **Key theme 4** (using information to optimise services and improve outcomes): ■ agree on an initial suite of indicators against which to measure improvement in care at local and regional level ■ participation in National Diabetes Audits will commence in 2016 ■ formalise the relationship between the Diabetes Network and the NI eHealth Strategy Group with the goal of having a diabetes care pathway with the electronic care record and a portal through which people living with diabetes can manage their own health information and interact with clinicians **Key theme 5** (services for people living with diabetes): ■ develop a plan to improve the experience of transition to adult services for young people ■ test and implement reliable systems to support early detection and follow-up for women with gestational diabetes ■ improve the experience of care in-hospital for people living with diabetes but admitted for other reasons ■ conduct formal needs assessments for particularly vulnerable people in order to inform future service models and improve outcomes

Country, year [reference]	UK (England), 2013 [53]	UK (England), 2011 [54]	UK (England), 2011 [55]	UK (North Ireland), 2016 [48]
Actions/activities to reach the aims/objectives of the strategy *(continuation)*	**Action 8:** Building on good practice in CVD and, more generally, NHS IQ, working with Strategic Clinical Networks, will develop, evaluate and disseminate approaches to assessment and care planning for CVD patients. These will include a full cardiovascular assessment (see Action 1 above) and assessment of needs generally and access to: education to support self-management; psychological support; and, where appropriate, physical activity, rehabilitation or reablement programmes, advance care planning and planning for end of life care. **Action 9:** The NHS CB will, through NHS IQ, continue to develop and evaluate the *Transform* programme in hospitals; improve end of life care in the community incl. through spreading electronic palliative care co-ordination systems (EPaCCS); and continue to run and use the VOICES survey as a means of monitoring quality of care at end of life. **Action 10:** In order to improve the use of information to drive improvement: ■ NHS CB and PHE will look to establish a cardiovascular intelligence network (CVIN), bringing together epidemiologists, analysts, clinicians and patient representatives. The CVIN, working with the HSCIC, will bring together existing CVD data and identify how to use it best; ■ NHS CB will routinely make available information on quality and outcomes of hospital-based cardiovascular teams or services; ■ NHS CB and HSCIC will make available comparative data on quality of care provided for patients with CVD by general practices; ■ PHE will make available at local authority level comparative data on risk factors and CVD outcomes (see Action 2); and ■ NHS CB and PHE will work with DH and National Institute for Health Research (NIHR) to consider possible future research priorities.		**Objective 6** (fewer people will experience stigma and discrimination): ■ public understanding of mental health will improve and, as a result, negative attitudes and behaviours to people with mental health problems will decrease	**Key theme 6** (enhancing the skills of frontline staff): ■ develop a workforce plan for diabetes services, which takes into account, e.g., the need for an integrated, multidisciplinary approach to care, the skills required to deliver a high-quality service ■ prioritise training in diabetes care for nurses and Allied Health Professionals who are not specialists in diabetes but regularly come into contact with people with diabetes ■ for specialists in diabetes, a programme for basic training in psychological skills will be designed **Key theme 7** (encouraging innovation): ■ establish formal lings with research, improvement and innovation partners ■ establish processes to ensure that the introduction of new drugs and devices is supported by appropriate infrastructure, including training for staff

Country, year [reference]	UK (England), 2013 [53]	UK (England), 2011 [54]	UK (England), 2011 [55]	UK (North Ireland), 2016 [48]
Specific interventions/ programmes (examples)	■ Coordinate My Care (CMC) https://pubmed.ncbi.nlm.nih.gov/24654211/ ■ Change4Life and other social marketing campaigns ■ NHS Health Check Programme ■ Act FAST campaign (face, arm, speech, time to call 999) to improve recognition of the signs and symptoms of a stroke ■ new models of care for people with long term conditions (LTC), e.g., Year of Care programme, LTC Year of Care Funding Model ■ Action Heart Cardiac Rehabilitation and Prevention Programme	■ *Quality and Outcomes Framework* (QOF) – framework for rewarding GP practices for systematically providing high-quality care for their patients ■ *Fit for Work Service* – multidisciplinary pilot projects designed to get workers on sickness absence back to work faster and to keep them in work ■ *Information prescriptions* (IP) – timely information for people with long-term health conditions to help them manage their condition	■ *The Mental Health Helplines Partnerships* (mhhp) – example of collaborative working; 50 helpline mental health providers, including national, local and specialist helplines, have come together to ensure access 24/7, 365 days a year ■ *Targeted Mental Health in Schools* (TaMHS) Programme – provides school-based early interventions and targeted mental health support for vulnerable children ■ *Talking Therapies*: A 4-year plan of action ■ *Welfare to Work* programme	■ 'A Fitter Future for All', the obesity prevention framework ■ The Diabetes- think, check, act project: 5 eLearning modules Structured Diabetes Education (SDE) programmes

Ireland

Table A-6: Main characteristics and implementation process of the included NCD strategies from Ireland

Country, year [reference]	Ireland, 2020 [37]	Ireland, 2010 [56]
Title of the strategy/policy	National Framework for the Integrated Prevention and Management of Chronic Disease in Ireland 2020-2025	Changing Cardiovascular Health. National Cardiovascular Health Policy 2010-2019
Publisher	HSE Organisation (Health Service Executive) ICPCD (Integrated Care Programme for the Prevention and Management of Chronic Disease) Clinical Leadership Group	Department of Health and Children
Indications (NCDs)	Cardiovascular disease (CVD), diabetes, COPD and asthma	Cardiovascular diseases
Focus: prevention/management	Prevention + management	Prevention + management
Targets/aims/vision	**Vision:** All individuals living in Ireland are empowered to live well through the effective prevention and proactive management of chronic conditions. **Aims:** **This framework** ■ provides the overarching guidance for the implementation of existing models of care and the spectrum of services to prevent and manage chronic disease ■ provides a patient-centred focus ■ facilitates care in the community ■ moves away from a disease-specific approach ■ identifies the key principles for the effective prevention and management of chronic conditions	**Aim:** to develop a policy framework for the prevention, detection and treatment of cardiovascular disease, including stroke and peripheral arterial disease, which will ensure an integrated and quality-assured approach in their management The policy will adopt a **proactive approach** to actively changing cardiovascular health for the better.

Country, year [reference]	Ireland, 2020 [37]	Ireland, 2010 [56]
Targets/aims/vision *(continuation)*	■ describes a model of care for the integrated prevention and management of chronic disease ■ describes a spectrum of services to support the implementation of "end-to-end" care ■ supports a stronger emphasis on coordinated care across the health sector ■ acknowledges and builds on work already in place that supports chronic conditions **Model of care principles:** e.g., ■ population health perspective (focus on primary care, prevention & health promotion) ■ person-centred ■ equity (reduce health inequalities) ■ coordination of care (integrated care) ■ support self-care and self-management (empowerment) ■ top of license practice & teamwork (interdisciplinary & multidisciplinary care) ■ supported by technology ■ quality & safety (evidence-based)	
Additional documents available?	■ National Framework for the Integrated Prevention and Management of Chronic Disease: a **10-step guide** to support local **implementation** ■ Making a start in integrated care for older persons: a **practical guide to the local implementation** of integrated care programmes for older persons ■ Integrated Model of Care for the Prevention and Management of Chronic Disease: **Implementation Guide**	■ Building Healthier Hearts, National Cardiovascular Health Strategy, 1999 (**first Irish strategy**)
Implementation process		
Time frame	2020-2025	2010-2019
Involved stakeholders	■ governance structures (national and local key stakeholders incl. service users) ■ local implementation teams ■ at local Community Healthcare Organisation level there should be a Chronic Disease Integrated Care Local Governance Group reflecting key managerial and clinical stakeholders across the hospital, ambulatory care hub and local community service settings ■ reporting to this group should be 3 working groups: 1 for each major chronic disease (CVD, asthma, COPD, diabetes); membership of these groups should reflect key stakeholders across preventive services, primary and secondary care	■ Department of Health & Children ■ Members of the Cardiovascular Health Policy Group ■ Health Service Executive (HSE) ■ National Directorate of Quality and Clinical Care ■ Health Information and Quality Authority (HIQA) ■ key stakeholders, i.e. policy, service, academic & public representatives ■ Health Research Board ■ various Irish medical associations
Organisational/structural framework conditions	The accompanying document to the Framework (National Framework for the Integrated Prevention and Management of Chronic Disease in Ireland: a **10-step guide** to support local **implementation**) describes the key steps to enable the implementation, embedding, monitoring and evaluation of integrated care at the national and regional levels. The **key steps** are: ■ *Step 1:* Establish a governance structure (on a national and local level) ■ *Step 2:* Population health planning (e.g., estimate chronic disease prevalence locally and nationally, develop chronic disease model of care, develop GP contract for chronic disease management, …)	■ the Health Service Executive has been tasked with developing an **implementation plan** detailing how it intends to arrange services to support the delivery of care ■ this cardiovascular health policy is seen as an important framework for developments in the coming decade ■ the more specific focus of the policy in the first 5 years of its lifetime (2010-2014) reflects in part the need to focus on early achievements in this uncertain economic period, but also the need to take stock of the impact of changes in service delivery and technological possibilities within a reasonable timeframe in order to further refine policy priorities in the second half of the 10-year policy period

Country, year [reference]	Ireland, 2020 [37]	Ireland, 2010 [56]
Organisational/structural framework conditions *(continuation)*	■ *Step 3:* Map local services (e.g., undertake a needs assessment for each of the chronic diseases, map local services, carry out gap analysis) ■ *Step 4:* Develop services and care pathways (e.g., identify local pathways across the spectrum of care, develop integrated pathways between primary and secondary care) ■ *Step 5:* Develop new ways of working (e.g., introduce new roles, establish alternative outpatient pathways incl. virtual consultations) ■ *Step 6:* Develop ambulatory care hub and multi-disciplinary (MDT) teams (e.g., develop Chronic Disease Specialist Teams, establish local clinical ecosystem for chronic disease between acute, community teams and general practice) ■ *Step 7:* Person-centred care plans (e.g., develop patient-centred care planning approach, provide education and training for staff to support patients to self-manage their conditions) ■ *Step 8:* Emphasis on prevention of chronic diseases & supports to live well (e.g., build chronic disease prevention strategies into clinical pathways, implement 'Making every contact count' framework locally, implement 'self-management support' framework locally) ■ *Step 9:* Enablers (e.g., develop an appropriately trained workforce, develop clinical information systems and e-technology, establish the clinical data repository and registry for chronic disease, align finances to support roll-out) ■ *Step 10:* Monitor & evaluate (e.g., monitor service delivery, measure processes and outcomes, measure patients and staff experience)	■ the policy will be established alongside and complement other recently developed health-related policies, including policies on obesity, alcohol and chronic disease prevention and management ■ it will also work with existing and proposed service delivery frameworks of the Health Service Executive (HSE), e.g., the establishment of primary care teams, the proposed new general practitioner contract, and the framework of the recently launched report *Building a Culture of Patient Safety* by the Commission on Patient Safety and Quality Assurance
Monitoring/evaluation	■ the ICPCD will agree on a defined evaluation methodology to ensure a consistent approach across all areas of work, enabling sharing of best practice and learning, as well as the ability to demonstrate improvement and changes that are evidence-based ■ the ICPCD will develop a set of PROMs (patient-reported outcome measures) that can be applied to the care of individuals with chronic disease within an integrated care setting ■ patient-related experience will be examined using surveys and further information will be gathered from the HSE "Your Voice Matters" which is a survey recording patients' experiences of utilising healthcare services in Ireland to inform service improvements ■ qualitative surveys will be used to capture views of staff on the quality and safety of care provided	A **Cardiovascular Policy Monitoring Group** (incl. Department of Health and Children officials and external experts) will: ■ meet twice a year to review progress ■ provide a brief annual report highlighting progress and identifying potential barriers in order to guide service planning ■ advises the Department of Health and Children on the achievement of policy objectives ■ coordinate a major mid-term review of progress on the policy in Year 5 (2014)
Funding	National sponsorship	Strategy commissioned by the Ministry for Health and Children; further funding of activities n.r.
Actions/activities to reach the aims/objectives of the strategy	**Key steps for implementation**, e.g., (see above, organisational/structural framework conditions) ■ develop services and care pathways: focus on providing care in the community, focus on integrating prevention into care pathways, develop integrated pathways between primary and secondary care ■ develop new ways of working: e.g., establish alternative outpatient pathways, including virtual consultations ■ develop ambulatory care hub and multi-disciplinary teams ■ emphasis on prevention of chronic disease and supports to live well: build chronic disease prevention strategies into clinical pathways, implement 'making every contact count' framework locally, implement 'self-management support' framework locally	■ cardiovascular disease must be addressed through a combination of **population-based approaches**, which target the entire population, and **high-risk approaches**, which focus on individuals in contact with health services **Recommendations** (examples): ■ The Department of Health and Children should prioritise actions that promote the health behaviour profiles underpinning cardiovascular health, with specific targets to actively pursue and achieve within a 10-year period. The prioritised areas are: ▪ maintaining a healthy body weight; ▪ healthy eating and physical activity; ▪ reducing salt intake; ▪ refraining from or quitting smoking; ▪ consuming alcohol responsibly.

Country, year [reference]	Ireland, 2020 [37]	Ireland, 2010 [56]
Actions/activities to reach the aims/objectives of the strategy *(continuation)*	3 National Clinical Programmes working closely together as part of the ICPCD: ■ the National Heart Programme ■ the National Respiratory Programme (COPD and asthma) ■ The National Diabetes Clinical Programme (Type II Diabetes Mellitus) Model of care for the integrated prevention and management of chronic disease: ■ organises services to support the differing level of complexity of conditions for people with chronic disease ■ defines 5 levels of service that need to be provided for a population in order to deliver integrated 'end-to-end' care for chronic disease: ■ *level 0:* living well with chronic disease (examples of services: diabetes prevention, Making Every Contact Count, telehealth/remote monitoring, self-management support) ■ *level 1:* general practice (example: Chronic Disease Management Programme [CDM]) ■ *level 2:* community specialist ambulatory care (examples: cardiac/pulmonary rehab, specialist teams (physio, dietitians, ...), structured patient education, diagnostics) ■ *level 3:* acute specialist ambulatory care (example: outreach teams for COPD patients after an in-patient stay supporting early discharge) ■ *level 4:* specialist hospital care ■ core elements of integrated care for people with chronic disease include primary and secondary prevention, early detection and intervention, efficient access to community diagnostics, patient-centred assessment and on-going comprehensive medical treatment, all to be provided in the most appropriate setting	■ Media and education campaigns should be undertaken to increase awareness by the general public of cardiovascular risk factors and levels of risk associated with them. ■ The 2007 ESC Clinical Practice Guidelines should be adopted and a care protocol for primary care based on these guidelines should be developed. Protocols on best practice in cardiovascular clinical care should be agreed. ■ Develop structured clinical care, which includes prevention of cardiovascular disease, in clinical practice. ■ Population approach: evaluation of a structured programme for cardiovascular risk ascertainment and management in the primary care setting is required to inform the development of a model for the delivery of care. ■ A protocol for the early detection and structured cardiovascular care of patients with diabetes should be agreed in order to manage this high-risk group. ■ Effective management of hypertension should be prioritised in primary care. ■ Anticoagulation service management should be formalised. ■ A programme should be developed to increase and support the capacity of primary care to detect heart failure at an early stage and to provide proactive care. ■ A protocol for risk assessment and management of patients with suspected peripheral arterial disease (PAD) should be developed and evaluated in primary care. ■ National standards of cardiovascular health services: Evidence-based guidelines and standards should be agreed, with appropriate performance indicators identified and reporting structures established. ■ Cardiovascular health surveillance: A comprehensive cardiovascular health services information system should be developed as a priority to enable the implementation of this policy. ■ Population health surveys: Regular population-based surveys should be conducted to establish health profiles in adults and children. ■ A national group representative of stakeholders should be convened to determine priorities for research and health technology assessment in cardiovascular care. ■ etc. (further recommendations focus on acute cardiac/stroke care)
Specific interventions/ programmes (examples)	■ Chronic Disease Management Programme https://www.hse.ie/eng/about/who/gmscontracts/2019agreement/chronic-disease-management-programme/ ■ Making every contact count (MECC) https://www.makingmeccwork.com/	n.r.

Australia

Table A-7: Main characteristics and implementation process of the included NCD strategies from Australia

Country, year [reference]	Australia, 2017 [26]	Australia, 2015 [50]	Australia, 2019 [44]	Australia, 2017 [45]
Title of the strategy/policy	National Strategic Framework for Chronic Conditions	Australian National Diabetes Strategy	National Strategic Action Plan for Lung Conditions	The Fifth National Mental Health and Suicide Prevention Plan
Publisher	Australian Health Ministers' Advisory Council	Commonwealth of Australia	Lung Foundation Australia, Australian Government Department of Health	Australian Government Department of Health
Indications (NCDs)	General chronic conditions (e.g., cancer, cardiovascular diseases, diabetes, chronic respiratory diseases, mental illness)	Diabetes	Lung conditions (such as COPD, lung cancer, asthma, bronchiectasis)	Mental Health
Focus: prevention/ management	Prevention + management	Prevention + management	Prevention + management	Prevention + management
Targets/aims/vision	***Vision:*** All Australians live **healthier** lives through effective prevention and management of chronic conditions. ***Objectives:*** 1. Focus on prevention for a healthier Australia. 2. Provide efficient, effective and appropriate care to support people with chronic conditions to optimise quality of life. 3. Target priority populations. **Guiding Principles** to enable successful prevention and management of chronic conditions for all Australians: ■ Equity: all Australians receive safe, high-quality health care irrespective of background or personal circumstance ■ Collaboration and partnerships: identify linkages and act upon opportunities to cooperate and partner responsibly to achieve greater impacts than can occur in isolation ■ Access: high standard, appropriate support and services are available, accessible, equitable and affordable for all Australians ■ Evidence-based: rigorous, relevant and current evidence informs best practice and strengthens the knowledge base to effectively prevent and manage chronic conditions	***Vision:*** Strengthen all sectors in developing, implementing and evaluating an **integrated and coordinated approach** for reducing the social, human and economic impact of diabetes in Australia. ***Key guiding principles:*** 1. Collaboration and cooperation to improve health outcomes 2. Coordination and integration of diabetes care across services, settings, technology and sectors 3. Facilitation of person-centred care and self-management throughout life 4. Reduction of health inequalities 5. Measurement of health behaviours and outcomes ***Goals:*** ■ Prevent people developing type II diabetes ■ Promote awareness and earlier detection of type I and type II diabetes ■ Reduce the occurrence of diabetes-related complications and improve quality of life among people with diabetes ■ Reduce the impact of pre-existing and gestational diabetes in pregnancy ■ Reduce the impact of diabetes among Aboriginal and Torres Strait Islander peoples	**Goal:** To improve the lives of all Australians through better lung health This Action Plan: ■ addresses **causes, treatment** and **management** of lung disease ■ outlines tangible and practical **actions** ■ outlines a strategic approach to **reducing** the **burden** of lung conditions and **improving lung health** **Priority areas and objectives:** ■ Prevention and Risk Reduction: Prevent lung conditions, reduce risk of lung disease ■ Awareness and Stigma: Raise awareness, reduce stigma, discrimination and social isolation ■ Diagnosis, Management and Care: Translate science into quality diagnosis, management and care of lung conditions ■ Partners in Health: Support patients to participate in shared decision making and self-management ■ Equitable Access: Ensure equitable and timely access to evidence-based diagnosis and management of lung conditions ■ Research and Monitoring: Increase research capacity to redress under resourcing of research into highly prevalent lung conditions	**The vision is for a mental health system that** ■ enables recovery ■ prevents and detects mental illness early ■ ensures that all Australians with a mental illness can access effective/appropriate treatment and community support to enable them to participate fully in the community **Aims:** ■ to promote mental health and well-being and prevent development of mental health problems and mental illness ■ to reduce the impact of mental health problems and mental illness, including effects of stigma on individuals, families and the community ■ to promote recovery from mental health problems and mental illness ■ to assure the rights of people with mental health problems and mental illness, and enable them to participate meaningfully in society

Country, year [reference]	Australia, 2017 [26]	Australia, 2015 [50]	Australia, 2019 [44]	Australia, 2017 [45]
Targets/aims/vision *(continuation)*	■ Person-centred approaches: the health system is shaped to recognise and value the needs of individuals, their carers and their families, to provide holistic care and support ■ Sustainability: strategic planning and responsible management of resources deliver long-term improved health outcomes ■ Accountability and transparency: decisions and responsibilities are clear and accountable, and achieve best value with public resources ■ Shared responsibility: all parties understand, accept and fulfil their roles and responsibilities to ensure enhanced health outcomes for all Australians	■ Reduce the impact of diabetes among other priority groups ■ Strengthen prevention and care through research, evidence and data		
Additional documents available?	-	■ **Implementation Plan:** Australian Health Ministers' Advisory Council 2017. Diabetes in Australia: Focus on the future. ■ Australian Institute of Health and Welfare (AIHW) 2020. **Indicators** for the Australian National Diabetes Strategy 2016-2020: data update.	■ Lung Conditions in Australia 2018: A **supporting document** to the National Strategic Action Plan for Lung Conditions.	■ The Fifth National Mental Health and Suicide Prevention Plan. **Implementation Plan** (contains further details for each action outlined in the Plan, regarding roles/specific tasks for each stakeholder, milestone dates, coordination points)
Implementation process				
Time frame	2017-2025	2016-2020	n.r.	2017-2022
Involved stakeholders	■ All state and territory Governments (at all levels) ■ Non-Government Organisations ■ Public and private health sectors, including all health care providers and private health insurers ■ Health professionals ■ Industry ■ Researchers and Academics ■ Communities ■ Individuals, carers and families	■ National Diabetes Strategy Advisory Group ■ all levels of government ■ health sector ■ relevant organisations ■ health professionals	■ Lung Foundation Australia ■ Individuals, carers and families ■ Communities ■ All levels of government ■ Non-government organisations ■ Public/private health sectors (incl. healthcare providers, private health insurers, Industry, researchers and academics)	■ all governments ■ Australian Health Ministers' Advisory Council (AHMAC) ■ Commonwealth, state and territory governments public sector agencies ■ expert representatives from the private and community-managed sector ■ service providers, families, consumers, carers ■ regional level: Primary Health Networks (PHNs) and Local Hospital Networks (LHNs)
Organisational framework conditions	■ the framework is **directed at** decision and policymakers at national, state and local levels.	■ this Strategy articulates a **vision** supported by 7 high-level goals	■ this Action Plan outlines a **comprehensive, collaborative and evidence-based approach** to reducing individual/societal burden of lung conditions and improving lung health	■ the Plan sets out to achieve outcomes in 8 priority areas that align with specific aims and policy directions in the National Mental Health Policy

Country, year [reference]	Australia, 2017 [26]	Australia, 2015 [50]	Australia, 2019 [44]	Australia, 2017 [45]
Organisational framework conditions *(continuation)*	■ it serves as overarching policy for the prevention and management of chronic conditions in Australia, providing guidance for the development and implementation of policies, strategies, actions and services to address chronic conditions and improve health outcomes ■ it provides guidance to **enhance current disease-specific policies** and develop new and innovative approaches to address chronic conditions ■ **8 guiding Principles** enable the successful prevention and management of chronic conditions ■ all Partners have shared responsibility for health outcomes according to their role and capacity within the health care system; greater cooperation between Partners can lead to more successful individual and system outcomes. ■ **Strategic Priority Areas** have been identified under each Objective; these are the core priority areas where Partners should focus attention to achieve each of the Objectives; Partners can readily identify, plan and implement their own policies, strategies, actions and services against the Strategic Priority Areas.	■ each **goal** contains potential **areas** for **action** and **measures** of progress informed by the expert advice of the National Diabetes Strategy Advisory Group and consultations with key stakeholders and the community. ■ this Strategy includes **principles to guide action** within the goals and common enablers ■ an **Implementation Plan** was developed for the Strategy to operationalise each of the Strategy's goals ■ the Plan was agreed by all governments as activities that, at that time, could be developed, expanded, or modified to produce targeted, tangible improvements in the prevention, early detection, management and care of all forms of diabetes ■ the Plan identified 55 indicators, mapped to potential measures of progress, for each goal of the Strategy	■ the plan articulates a goal supported by 6 high-level priorities ■ each **priority** has a number of **recommended actions** informed by evidence; these actions are detailed within this Action Plan	■ **responsibility for implementation** will lie with AHMAC and its relevant Principal Committees and will be built on agreements between governments ■ implementation needs to occur at the national level, within individual governments and at the local level, with the continued inclusion and involvement from consumers, carers and service providers ■ **implementation plan:** responds to priority areas and commitments; will allow AHMAC and its Principal Committees to plan activity and ensure coordination of implementation efforts ■ supporting **ongoing and active involvement of consumers and carers**: e.g. collaboration on design/planning, implementation, monitoring/evaluation of policies/actions, capacity building
Monitoring/evaluation	■ the Framework will be **reviewed** every 3 years and informed by achievements against the objectives ■ progress should be measured at various levels and is the **responsibility** of all **partners** ■ objectives, strategic priority areas and outcomes of strategy **contribute** to achieving its vision ■ **example indicators** demonstrate the information currently available to **monitor the impact** of collective action ■ **partners** should **monitor their own** strategies, policies, actions or services ■ The **review** of the Framework will be managed in a **collaborative** way (partners, experts, jurisdictions)	■ it is anticipated that the strategy will be reviewed after 3 years ■ the strategy outlines potential ways to measure progress against each goal; the measures are expressed as high-level indicators, as it is anticipated that refinements will be made through the development of an implementation plan and associated metrics, including units of measurement and reporting responsibilities	■ **evaluation framework** to assess progress of Action Plan over a 5-year period ■ annual **progress checks**, mid-term and final **review** will provide essential data ■ regular review and modification of actions based on evaluation ■ The design, development and implementation of **a comprehensive evaluation and monitoring plan** will be an integral aspect of this governance role; the plan will be linked to the overarching goal and will report on progress	■ **COAG Health Council** will monitor implementation of the Fifth Plan ■ Fifth Plan identifies **24 national key performance indicators** in 7 domains; selection of these indicators was guided by the National Mental Health Commission (e.g., proportion of children developmentally vulnerable, rate of long-term health conditions in people with mental illness, prevalence of mental illness, population access to mental health care, rates of suicides, ...) ■ **National Mental Health Commission** will have a key role in monitoring/reporting on implementation; governments have committed to requesting an annual report from the Commission in implementation progress and performance against identified indicators

Country, year [reference]	Australia, 2017 [26]	Australia, 2015 [50]	Australia, 2019 [44]	Australia, 2017 [45]
Monitoring/evaluation *(continuation)*				■ an **annual reporting process** will be established that provides timely public reports on the implementation of the Fifth Plan, including progress against agreed outcomes and performance against identified indicators
Funding	n.r.	n.r.	Australian Government Department of Health	n.r.
Actions/activities to reach the aims/objectives of the strategy	**Objective 1: Focus on prevention for a healthier Australia** Strategic Priority Area 1.1: Promote health and reduce risks; examples for actions: ■ consistent and coordinated health promotion positively influences healthy behaviour choices ■ targeted health messages and education meet community needs ■ people navigate and use health information to meet their needs ■ risk factors are identified early and acted on appropriately ■ at-risk people and populations receive evidence-based targeted interventions Strategic Priority Area 1.2: Partnerships for health; e.g., ■ partnerships promote healthy local environments and settings, and encourage healthy behaviours ■ investment in prevention strategies engages multiple partners wherever practical Strategic Priority Area 1.3: Critical life stages, e.g., ■ prevention opportunities target life stages: maternal health, children, young people, adults, older people ■ interventions target multiple settings (such as general practices, schools, workplaces, families and communities), using multiple strategies, covering a range of behavioural risk factors ■ evidence-base strengthened around critical life stages to reduce life-long risk of chronic conditions and intergenerational risk	**Goal 1: Prevent people developing type II diabetes**, examples for areas of action: ■ embed physical activity and healthy eating in everyday life (e.g., workplaces, schools and communities) ■ increase the availability of and demand for healthier food or reduce the availability of and demand for unhealthy food (incl. through continued implementation and targeted education on the Front-of-Pack Labelling) ■ strengthen, upskill and support the primary health care and public health workforce to support people in making healthy choices where they exist **Goal 2: Promote awareness and earlier detection of type I and type II diabetes**, e.g., ■ increase recognition and awareness of type II diabetes and early detection among health care providers and the community ■ promote increased use of risk screening tools and early management of diabetes with a focus on groups at high risk of developing type II diabetes **Goal 3: Reduce the occurrence of diabetes-related complications and improve quality of life among people with diabetes** ■ develop nationally agreed clinical guidelines, local care pathways and complications prevention programmes ■ enhance access to structured self-management education programmes for people with diabetes, including the newly diagnosed and people starting insulin	**Priority Area 1: Prevention and risk reduction**, examples for recommended actions: ■ support accelerated efforts in reducing smoking prevalence and working towards a tobacco-free society (→ National Tobacco Strategy) ■ deliver awareness and education campaigns to improve knowledge of occupational hazards that affect the lungs and to promote safe workplaces **Priority Area 2: Awareness and stigma**, e.g., ■ deliver a comprehensive public health program to reduce stigma, discrimination and social isolation associated with lung conditions ■ deliver an awareness and education campaign to increase knowledge of the symptoms of lung conditions and enhance early and accurate diagnosis **Priority Area 3: Diagnosis, management and care**, e.g., ■ develop and deliver a national lung health training and education framework for health professionals ■ ongoing revision, dissemination and implementation of evidence-based clinical practice guidelines and tools for lung conditions ■ investigate and promote equitable access to evidence-based diagnostic tests, medicines and novel treatments **Priority Area 4: Partners in health (self-management)**, e.g., ■ provide tools, information and support services for people with lung conditions to support effective self-management practices	**Priority Area 1: Achieving integrated regional planning and service delivery**, examples for actions: ■ governments will support integrated planning and service delivery at the regional level ■ governments will work with Primary Health Networks (PHNs) and Local Hospital Networks (LHNs) to implement integrated planning and service delivery at the regional level **Priority Area 2: suicide prevention**, e.g., ■ governments will develop a National Suicide Prevention Implementation Strategy that operationalises the 11 elements of the Fifth Plan (e.g., restrictions of means to suicide, media guidelines, increased access to services, crisis intervention, etc.) ■ governments will support PHNs and LHNs to develop integrated, whole-of-community approaches to suicide prevention **Priority Area 3: coordinating treatment/ supports for people with severe/complex mental illness**, e.g., ■ governments will require PHNs and LHNs to prioritise coordinated treatment and supports for people with severe and complex mental illness at the regional level and reflect this in regional planning and service delivery ■ governments will develop, implement and monitor national guidelines to improve coordination of treatment and supports for people with severe and complex mental illness

Country, year [reference]	Australia, 2017 [26]	Australia, 2015 [50]	Australia, 2019 [44]	Australia, 2017 [45]
Actions/activities to reach the aims/objectives of the strategy *(continuation)*	Strategic Priority Area 1.4: Timely and appropriate detection and intervention, e.g., ■ health checks, integrated risk assessments and evidence-based screening programs are promoted and utilised in various settings ■ people recognise their risk of developing a chronic condition and have the necessary skills to take appropriate action **Objective 2: Provide efficient, effective and appropriate care to support people with chronic conditions to optimise quality of life** Strategic Priority Area 2.1: Active engagement, e.g. ■ the health workforce supports delivery of information and services to people who have varying levels of health literacy ■ people have sufficient and relevant information and support to learn more about their chronic condition and its management ■ integrated care plans are developed , in partnership with individuals, and implemented and reviewed through a flexible team-based approach Strategic Priority Area 2.2: Continuity of care, e.g., ■ effective transfer, discharge and referral pathways exist between health care services ■ the health workforce works in flexible multidisciplinary teams to address single or multiple chronic conditions Strategic Priority Area 2.3: Accessible health services, e.g., ■ technology broadens access to health services, including appropriate use of telehealth and digital health options ■ the health workforce is skilled in the use of technology and in effective communication that is appropriate to health literacy levels Strategic Priority Area 2.4: information sharing, e.g., ■ a universal electronic health record is used to securely share health information between health care providers	■ support the involvement of people with diabetes, and health care providers who care for people with diabetes in quality improvement processes ■ support current access to flexible telemedicine consultations (e.g., medical consultations for diabetes, eye screening programmes and telephone-based lifestyle coaching) and explore the expansion of telehealth services ■ continue to develop and design efficient pathways for assessment, evaluation and funding that enable timely access to new diabetes treatments and devices ■ develop clear competencies for the diabetes workforce and other health professionals involved in diabetes care based on national clinical guidelines in a culturally informed and language-appropriate way ■ provide mental health care for people with diabetes ■ provide high-quality hospital care **Goal 4: Reduce the impact of pre-existing and gestational diabetes in pregnancy** - (not relevant) **Goal 5: Reduce the impact of diabetes among Aboriginal and Torres Strait Islander peoples** - (not relevant) **Goal 6: Reduce the impact of diabetes among other priority groups**, e.g., ■ culturally and linguistically diverse people: e.g., improve health literacy by disseminating culturally appropriate information and programmes for the management and care of diabetes ■ older Australians: e.g., ensure that staff in aged care settings are trained in managing diabetes; ensure appropriate care transitions between services	■ develop and pilot innovative technologies and strategies that support patients to be actively involved in their lung health Priority Area 5: Equitable access, e.g., ■ fund Specialist Lung Cancer Nurses (SLCNs) to provide care coordination and supportive care to people with lung cancer ■ improve access to supportive and palliative care services, particularly for priority populations **Priority Area 6: Research and monitoring**, e.g., ■ invest in ongoing surveillance to monitor the quality of healthcare and to understand and monitor the epidemiology and burden of lung conditions ■ invest in research that develops and pilots best-practice models of care to achieve optimal outcomes for people with lung conditions across priority populations and geographic regions	**Priority Area 4: improving Aboriginal and Torres Strait Islander mental health and suicide prevention**, e.g., ■ governments will work with PHNs and LHNs to implement integrated planning and service delivery for Aboriginal and Torres Strait Islander peoples at the regional level ■ governments will improve Aboriginal and Torres Strait Islander access to, and experience with, mental health and wellbeing services **Priority Area 5: improving the physical health of people living with mental illness and reducing early mortality**, e.g., ■ governments commit to the principles of Equally Well – The National Consensus Statement for improving the physical health and wellbeing of people living with mental illness in Australia ■ governments will commence regular national reporting on the physical health of people living with mental illness **Priority Area 6: reducing stigma/discrimination**, e.g., ■ governments will take action to reduce the stigma and discrimination experienced by people with mental illness that is poorly understood in the community ■ governments will reduce stigma and discrimination in the health workforce by, e.g., developing and implementing training programs that build awareness and knowledge about the impact of stigma and discrimination **Priority Area 7: making safety and quality central to mental health service delivery**, e.g., ■ governments will develop a National Mental Health Safety and Quality Framework to guide delivery of the full range of health and support services required by people living with mental illness

Country, year [reference]	Australia, 2017 [26]	Australia, 2015 [50]	Australia, 2019 [44]	Australia, 2017 [45]
Actions/activities to reach the aims/objectives of the strategy *(continuation)*	■ consistent data collection meaningfully informs the design, innovation and continuous quality improvement of services and policy at national and local levels Strategic Priority Area 2.5: Supportive systems, e.g., ■ coordinated action reduces duplication and improves efficacy of health services ■ continued commitment to health reforms that aim to more effectively respond to chronic conditions **Objective 3: Target priority populations** Strategic Priority Area 3.1: Aboriginal and Torres Strait Islander Health, e.g., ■ Aboriginal and Torres Strait Islander people access culturally safe, high-quality and appropriate health and wellbeing services Strategic Priority Area 3.2: Action and empowerment, e.g., ■ services are delivered in a culturally safe way involving people from the same cultural background ■ health information and education enables self-management where appropriate and encourages engagement with health services	■ Australians living in rural and remote areas: e.g., coordinate regional services across primary, secondary and tertiary care to facilitate access to care and the necessary support services; ensure the availability of telehealth and internet medical services and ensure equitable access to other technologies and services as appropriate Goal 7: Strengthen prevention and care **through research, evidence and data**, e.g., ■ develop a national research agenda designed to coordinate diabetes research across multiple funding streams ■ improve and expand data linkage and facilitate ease of access		■ governments will ensure service delivery systems monitor the safety and quality of their services and make information on service quality performance publicly available **Priority Area 8: ensuring that the enablers of effective system performance and system improvement are in place**, e.g., ■ governments will develop a National Digital Mental Health Framework ■ governments will request the National Mental Health Commission to develop a research strategy to drive better treatment outcomes across the mental health sector
Specific interventions/ programmes (examples)	n.r.	n.r.	n.r.	n.r.

Canada

Table A-8: Main characteristics and implementation process of the included NCD strategies from Canada

Country, year [reference]	Canada, 2015 [49]	Canada, 2012 [47]
Title of the strategy/policy	Improving health outcomes: A paradigm shift. Centre for Chronic Disease Prevention – Strategic Plan 2016-2019	Changing directions, changing lives: The mental health strategy for Canada
Publisher	Public Health Agency of Canada/Centre for Chronic Disease Prevention (CCDP)	Mental Health Commission of Canada (MHCC)
Indications (NCDs)	Chronic disease and injury	Mental health
Focus: prevention/ management	Prevention	Prevention + management
Targets/aims/vision	***Vision:*** Canadians living healthier and more productive lives. ***Mission:*** To mobilize multi-sectoral, evidence-based action to promote healthy living and prevent chronic disease and injuries.	***Vision:*** All people living in Canada have the opportunity to achieve the best possible mental health and well-being. ***6 Strategic Directions:*** ■ Promote mental health across the lifespan in homes, schools, and workplaces, and prevent mental illness and suicide wherever possible. ■ Foster recovery and well-being for people of all ages living with mental health problems and illnesses, and uphold their rights. ■ Provide access to the right combination of services, treatments and supports, when and where people need them. ■ Reduce disparities in risk factors and access to mental health services, and strengthen the response to the needs of diverse communities and Northerners. ■ Work with First Nations, Inuit, and Métis to address their mental health needs, acknowledging their distinct circumstances, rights and cultures. ■ Mobilize leadership, improve knowledge, and foster collaboration at all levels.
Additional documents available?	■ Public Health Agency of Canada, 2013. Preventing Chronic Disease – Strategic Plan 2013-2016 (**previous strategy**)	■ Mental Health Commission of Canada – **Strategic Plan** 2021-2031 ■ Mental Health Commission of Canada – **Strategic Plan** 2017-2022 ■ Status of **Evaluation** Recommendations for Mental Health Commission of Canada, 2016 ■ Toward Recovery and Well-Being: A Framework for a Mental Health Strategy for Canada, 2009 (**previous strategy**)
Time frame	2016-2019	n.r.
Involved stakeholders	multisectoral ecosystem: ■ governments ■ communities ■ academia ■ charitable & not-for-profit organisations ■ businesses ■ international bodies	■ People who have experienced mental health problems and illnesses, and their families; ■ federal, provincial, and territorial governments; ■ non-government organizations; ■ providers of mental health services; ■ national Aboriginal organizations and other stakeholder organizations that represent First Nations, Inuit, and Métis; ■ researchers and policy experts; ■ providers of services in other sectors; and the general public.

Country, year [reference]	Canada, 2015 [49]	Canada, 2012 [47]

Organisational framework conditions	■ The strategic plan provides a frame that structures the efforts of the CCDP over a 3 year period;
	■ The CCDP will cultivate a strong public health brand that is focusing on incubating effective evidence, policy, and programmatic initiatives;
	■ The CCDP will operationalize the vision and direction of the plan in the daily operations;
	■ Particular attention will be paid to tracking whether the evidence we generate (surveillance data, contribution funding learnings, policy) informs public health interventions, and to check whether our investments lead to strong, measurable return on investment;
		■ The strategy has been developed by the MHCC in close consultation with people living with mental health problems and illnesses, families, stakeholder organizations, governments, and experts.
		■ The Strategy has been developed in 2 distinct phases:
		  ■ In 2009, the release of "Toward Recovery and Well-Being: A Framework for a Mental Health Strategy for Canada" by the Commission marked the completion of the first phase. The Framework put forward a vision and broad goals that reflect an emerging consensus spanning the diverse mental health community;
		  ■ Drawing on the best available evidence and on input from thousands of people across Canada, this Strategy translates this vision into recommendations for action. The scope of Changing Directions, Changing Lives is broad and its recommendations are grouped into 6 key Strategic Directions;
		■ The Strategy calls on all Canadians to play a role in improving the mental health system; It will be up to people in each region of the country and at every level of government to create their own plans for acting on the Strategy's recommendations, in keeping with their particular circumstances.
		■ The MHCC Canada released a 5-year Strategic Plan for 2017-2022 and a Strategic Plan for 2021-2031. One of the strategic objectives in the plan is the promotion and advancement of The Mental Health Strategy for Canada.
		The Strategy calls for:
		■ people living with mental health problems and illnesses and their families to become more engaged in the planning, organisation, delivery and evaluation of mental health services, treatments and supports;
		■ mental health service providers to work with planners, funders, and users of the system to examine what changes are required in the way that they work in order to create a system that is better integrated around people's needs and fosters recovery;
		■ governments to take a comprehensive approach to addressing mental health needs, to re-focus spending on improving outcomes, and to correct years of underfunding of mental health;
		■ senior executive in both the public and private sectors to create workplaces that are as mentally healthy as possible, and to actively support the broader movement for improved mental health;
		■ all Canadians to promote mental health in everyday settings and reduce stigma by recognising how much we all have in common – there is no 'us' and 'them' when it comes to mental health and wellbeing.

Monitoring/evaluation	■ Progress will be monitored through the development of annual Management Implementation Plans, in addition to the ongoing Planning, Reporting and Financial Monitoring Cycle;	■ The impact of the Strategy needs to be measured over time and reviewed carefully after 5 years to assess the progress that has been made; ■ The Strategy proposes an initial set of indicators that can be used to do this, and calls for the development and implementation of a long-term plan to strengthen Canada's capacity to track the overall mental health and well-being of the population; ■ Potential indicators and data sources for each of the Strategic Directions are mentioned in the Strategy, e.g., increase in the percentage of people who report positive mental health; increase in the life expectancy of people living with severe mental illnesses; decrease in hospital readmission rates for mental illnesses; etc.
Funding	■ n.r. (no information on funding available in the strategy document) ■ the "Healthy Canadians and Communities Fund" (HCCF) is a Public Health Agency of Canada (PHAC) funding program that supports primary prevention interventions that prevent chronic disease ■ the HCCF replaces the Multi-sectoral Partnerships to Promote Healthy Living and Prevent Chronic Disease (MSP) program	■ the proposed approach to funding is as follows: increase the proportion of health spending that is devoted to mental health from 7% to 9% over 10 years; increase the proportion of social spending that is devoted to mental health by 2% from current levels; identify current mental health spending that should be re-allocated to improve efficiency and achieve better mental health outcomes; and engage the private and philanthropic sectors in contributing resources to mental health.

Country, year [reference]	Canada, 2015 [49]	Canada, 2012 [47]
Actions/activities to reach the aims/objectives of the strategy	***3 "spheres of work":*** ■ Discovery: e.g., utilize new surveillance methods and complementary data sources to survey risk and protective factors, as well as disease incidence, prevalence and mortality; ■ Innovation: e.g., find new solutions to healthy living, chronic disease and injury prevention; research new policy approaches including concepts of behavioural economics and social financing; ■ Breakthrough: evidence and knowledge from both the Discovery and Innovation spheres are applied to target behavioural change; work is action-oriented and outcomes-focussed, and breakthrough solutions are deployed for broad and durable impact. (The CCDP continues to implement an integrated approach to healthy living and chronic disease and injury prevention, aligning efforts for maximum efficiency and impact; at the same time, employees are being encouraged to find opportunities to innovate and explore new approaches – including behavioural economics, social innovation, and the possibilities of big data – to address complex policy and program challenges)	***Priorities within the 6 strategic directions (examples):*** **Strategic Direction 1:** Promote mental health across the lifespan in homes, schools, and workplaces, and prevent mental illness and suicide wherever possible ■ increase awareness about how to promote mental health, prevent mental illness and suicide wherever possible, and reduce stigma; ■ increase the capacity of families, caregivers, schools, post-secondary institutions and community organisations to promote the mental health of infants, children, and youth, prevent mental illness and suicide wherever possible, and intervene early when problems first emerge ■ create mentally healthy workplaces ■ increase the capacity of older adults, families, care settings, and communities to promote mental health later in life, prevent mental illness and suicide wherever possible, and intervene early when problems first emerge **Strategic Direction 2:** Foster recovery and well-being for people of all ages living with mental health problems and illnesses, and uphold their rights ■ shift policies and practices toward recovery and well-being for people of all ages living with mental health problems and illnesses, and their families ■ actively involve people living with mental health problems and illnesses and their families in making decisions about service systems ■ uphold the rights of people living with mental health problems and illnesses ■ reduce the over-representation of people living with mental health problems and illnesses in the criminal justice system and provide appropriate services, treatment and supports to those who are in the system **Strategic Direction 3:** Provide access to the right combination of services, treatments and supports, when and where people need them ■ expand the role of primary health care in meeting mental health needs ■ increase the availability and coordination of mental health services in the community for people of all ages ■ provide better access to intensive, acute, and highly specialised services, treatments and supports when they are needed by people living with severe or complex mental health problems and illnesses ■ recognise peer support as an essential component of mental health services ■ increase access to housing with supports, and to income, employment, and education support for people living with mental health problems and illnesses, and provide greater support to families **Strategic Direction 4:** Reduce disparities in risk factors and access to mental health services, and strengthen the response to the needs of diverse communities and Northerners ■ make improving mental health a goal when working to enhance overall living conditions and health outcomes ■ improve mental health services and supports by and for immigrants, refugees, ethno-cultural and racialised groups ■ tackle the pressing mental health challenges in northern and remote communities ■ strengthen the response to the mental health needs of minority official language communities (Francophone and Anglophone) ■ address the specific mental health needs related to gender and sexual orientation

Country, year [reference]	Canada, 2015 [49]	Canada, 2012 [47]
Actions/activities to reach the aims/objectives of the strategy *(continuation)*		**Strategic Direction 5:** Work with First Nations, Inuit, and Métis to address their distinct mental health needs, acknowledging their unique circumstances, rights, and cultures ■ First Nations Stream: establish a coordinated continuum of mental wellness services (mental health and substance use services) for and by First Nations, which includes traditional, cultural, and mainstream approaches ■ Inuit Stream: establish a coordinated continuum of mental wellness services (mental health and substance use services) for and by Inuit, which includes traditional, cultural, and clinical approaches ■ Métis Stream: Build Métis capacity to improve mental health and to improve access to mental health and addiction services through meaningful, inclusive, and equitable engagement processes and research ■ strengthen the response to First Nations, Inuit, and Métis urban and rural mental health issues, and to complex social issues that affect mental health **Strategic Direction 6:** Mobilise leadership, improve knowledge, and foster collaboration at all levels ■ coordinate mental health policies across governments and across sectors ■ improve mental health data collection, research, and knowledge exchange across Canada ■ strengthen mental health human resources ■ expand the leadership role of people living with mental health problems and illnesses, and their families, in setting mental health-related policy (recommendations for action for each priority listed in the document)
Specific interventions/ programmes (examples)	Projects from the Canadian Best Practices Portal of the Public Health Agency of Canada: ■ Ottawa Model for Smoking Cessation http://ottawamodel.ottawaheart.ca/ ■ Projects funded under the MSP program: ■ Healthy Living in St. James Town https://www.canada.ca/en/public-health (Evaluation Report) ■ C-CHANGE (Canadian Cardiovascular Harmonized National Guidelines Endeavour Initiative) https://www.canada.ca/en/public-health	■ School-based FRIENDS for Life Program, British Columbia ■ Mental Health Commission of Canada (MHCC) School-Based Mental Health and Addictions Services Project ■ Raising Awareness about Depression in Secondary Schools, Quebec ■ MHCC Workforce Advisory Committee Projects, e.g. Psychological Health and Safety in the Workplace Standard ■ Seniors' Mental Health Outreach Team, Alberta Projects from the website of the MHCC: ■ The Newfoundland and Labrador Stepped Care 2.0 © e-mental health demonstration project https://www.mentalhealthcommission.ca ■ Mental Health First Aid Canada https://www.mhfa.ca/

Short list for the Austrian Ministry of Social Affairs, Health, Care and Consumer Protection

Table A-9: Specific programmes and interventions (short list)

Country, prevention/ management	Project name	Aims, type of intervention	Study design, number of patients, follow-up	Outcomes	Author, year
Cardiovascular diseases					
DE, management	Disease Management Programm zu koronarer Herzkrankheit	improve coordination of treatment courses in outpatient/inpatient areas treatment process that improves coordination of treatment courses	cohort study n=4.1 million	mortality, incidence of heart attack, stroke, smoking prevalence, comorbidities	GKK, 2018
FI, prevention	North Karelia Project (1972-1997)	reduce burden of coronary heart disease mortality rates community-based interventions, national-level policy changes/legislation	surveys of cross-sectional population samples n.r. 25 yrs	stroke incidence, mortality rate, smoking prevalence, cholesterol, blood pressure	Puska, 2020 Jousilahti, 2016
Chronic respiratory diseases					
CA, prevention	Ottawa Model for Smoking Cessation	reduce mortality and downstream healthcare usage hospital-initiated smoking cessation intervention (bedside consultations, pharmacotherapy, telephone contacts after discharge)	controlled trial n=1.367 2 yrs	all-cause/smoking-related readmissions, emergency department visits, mortality	Mullen, 2016
CH, management	Besser leben mit COPD	help patients cope better with their disease selfmanagement programme (group coachings)	pre-post analysis of patient data n=122 14 months	quality of life, wellbeing, confidence in self-management, amount of treatments/consultations	Strassmann, 2021
DE, management	Disease Management Programm zu COPD	improve coordination of treatment courses in outpatient/inpatient areas treatment process that improves coordination of treatment courses	cohort study n=1.7 million *Kanniess study*: prospective, multicenter, cross-sectional study n=846	Mortality, exacerbations, smoking prevalence, medication, comorbidities *Kanniess study*: disease control	GKK, 2019 Kanniess, 2019
Mental health					
CA, prevention/ management	Mental Health First Aid Canada	improve mental health literacy and provide the skills/knowledge to help people manage mental health problems courses teach people how to recognise signs/symptoms of mental health problems, provide initial help and guide to-wards professional help	meta-analysis (15 studies) -	change in knowledge, attitudes and helping behaviours	Hadlaczky, 2014 (meta-analysis) Massey, 2014
CA, management	Stepped Care 2.0	improve access to publicly funded mental health services client-centred stage system of care that prioritizes the most effective and least intensive treatment (e.g., online self-help, peer support, counselling groups, specialist care)	mixed-methods evaluation n=132 health care providers, 212 clients	access of services, satisfaction, perceived benefit	MHCC, 2019

Country, prevention/ management	Project name	Aims, type of intervention	Study design, number of patients, follow-up	Outcomes	Author, year
Diabetes Type II					
AU, prevention	Greater Green Triangle (GGT) Diabetes Prevention Project	evaluate feasibility of group programme for lifestyle modification in primary care settings group programme (6 sessions delivered by trained nurses)	RCT n=237 12 months	anthropometric parameters, plasma glucose, lipids, blood pressure, psychological distress	Laatikainen, 2007
NL, management	Disease management programme for diabetes	assess impact of disease management programme (increase quality of care) main features: clinical practice guidelines, central coordination of care, assignment of patients to specialists, central data collection	single-group, pre-post design n=476 2 yrs	clinical parameters (e.g., glycaemic control, cholesterol, blood pressure), quality of life, patient self-management, costs	Steuten, 2007
FI, prevention	The Finnish Diabetes Prevention Study (DPS)	assess efficacy of intervention on dietary habits, exercise behaviour, bodyweight etc. individualised lifestyle intervention (counselling sessions with nutritionist, dietary/exercise advice, training sessions)	RCT n=522 13 yrs	body weight, glycaemia, physical activity, diet, diabetes incidence	Lindström, 2003 Lindström, 2013
DE, prevention	GLICEMIA	reduce risk factors for diabetes pharmacy-based prevention program (individual counselling, educational group sessions)	cluster-RCT n=1.092 1 y	risk for diabetes, quality of life, participant satisfaction	Schmiedel, 2015 Schmiedel, 2019 Schmiedel, 2015b
DE, management	GLICEMIA 2.0	develop structured secondary/tertiary prevention program intensive training (individual counselling sessions, group seminars)	RCT n=198 12 months	HbA1c, fasting plasma glucose, blood pressure, weight reduction	Prax, 2021
DE, management	Disease Management Programm zu Diabetes	improve coordination of treatment courses in outpatient/inpatient areas treatment process that improves coordination of treatment courses	cohort study n=8.8 million	mortality, smoking, comorbidities, HbA1c, diabetic foot syndrome	GKK, 2017
Various diseases					
UK, management	Expert Patient (self-management education) Programme (EPP)	deliver self-care support by developing self-care skills, confidence and motivation 6-week course (e.g., coping, solutions to problems)	RCT n=629 6 months	self-efficacy, health services utilisation, quality of life, implementation, cost-effectiveness, patients' experience	Rogers, 2008
CH, prevention	Girasole	reduce risk factors for NCDs and promote physical activity training for general practitioners (coaching for health-related behavioural changes)	no control group n=16 GPs, 90 pts	RE-AIM framework (Reach, Effectiveness, Adoption, Implementation, Maintenance)	Oetterli, 2019
IE, management	Chronic Disease Self-Management Program (CDSMP)	evaluate effectiveness of CDSMP delivered in routine clinical services self-management intervention (skills to enhance patient health, well-being, and coping skills)	pragmatic single group pre-post design n=102c 6-months FU: n=81	effectiveness, health, health behaviour and healthcare utilization	Hevey, 2018
UK, prevention	Making every contact count (MECC)	evaluate impact of training front-line staff (health and social care practitioners) on behaviour change 'Healthy Conversation Skills' training programme (MECC is an approach to behaviour change that utilises the millions of day-to-day interactions that organisations and individuals have with other people to support them in making positive changes to their physical and mental health and wellbeing)	controlled trial 1 y n=148 health and social care practitioners	effectiveness of training implementation, training impact on staff practice (changes in Healthy Conversation skills)	Lawrence, 2016

Extraction tables of the programmes' and interventions' evaluation (part II)

Cardiovascular diseases

Table A-10: Data extraction table, programmes for cardiovascular diseases

Project name	Disease management programme		North Karelia		
Author, year [reference]	**Gapp, 2008 [63]**	**Berendes, 2018 [64]**	**Jousilahti, 1994 [65]**	**Jousilahti, 2016 [66]**	**Puska, 2016 [67]**
Study characteristics					
Indication	Coronary heart disease (acute myocardial infarction)	Coronary heart disease	Cardiovascular diseases		
Country (affiliation corresponding author)	Germany		Finland		
Study design/aim of study	Empirical non-randomised controlled study (cross-sectional postal survey) ■ study evaluates healthcare and outcomes of DMPs and assesses selection of enrolment for these programmes ■ to investigate how course of disease changes with increased duration of DMP participation	Cohort study	Comparing 4 independent cross-sectional surveys between 1972 and 1987 ■ describes 15-year CVD risk factor clustering trends ■ assesses degree to which high levels of risk factors are clustering in the same individuals	Review; 9 independent surveys of cross-sectional population samples (National FINRISK study)	Review ■ gives main reasons for success ■ discusses transferability to other countries
Study population (pts/care providers)	Statutorily insured pts with acute myocardial infarction	Pts/cases	General public		
Number of included pts/analysed pts	2,563/2,330 27% in DMP	Baseline 2004: 4,125.893 patient cases; end of observation period 2017: 1,828.075	30,118	34,525	-
Dropouts	233	-	n.r.	n.r.	-
Age, years	DMP: mean 67.2y; non-DMP: 68.8y	68.13y (SD 10.97)	30-59y (common age range in all 4 surveys)	30-59y[24]	-
Sex	DMP: 78% male; non-DMP: 73% male	Baseline: female: 139,357 to 1,564.000 cases; male: 393,311 to 2,562.000 cases	n.r.	n.r.	-
Last follow-up after baseline assessment	-	Observation period: 01/07/2004 to 31/12/2017 (13 years)	4 independent population samples (1972, 1977, 1982, 1987)	9 independent population samples (1972 to 2012)	-

[24] Common age range in all surveys.

Project name	Disease management programme		North Karelia		
Author, year [reference]	**Gapp, 2008 [63]**	**Berendes, 2018 [64]**	**Jousilahti, 1994 [65]**	**Jousilahti, 2016 [66]**	**Puska, 2016 [67]**
Intervention					
Prevention/management	Management		Prevention		
Aims	■ improve quality and cost-effectiveness of healthcare for chronic conditions by implementing evidence-based guidelines and establishing clinical pathways ■ improve coordination of treatment processes in out-/inpatient setting ■ increase the adherence to evidence-based medicine ■ identify complications at an early stage ■ reduction of mortality and cardiovascular morbidity and increase in quality of life and life expectancy		■ prevent CVDs and reduce mortality and morbidity rates through health promotion and policies on basis of medical knowledge and encouraging a population change toward healthier lifestyles ■ behavioural change and reduction of prevalence of 3 main CVD risk factors (smoking, elevated total serum cholesterol and blood pressure levels) ■ carry out the intervention for a 5-year period (1972-1977) as a pilot for all of Finland ■ carry out activities; plan, catalyse, and evaluate the work done by different sectors of the community		
Intervention	■ DMP: models of healthcare for chronically ill pts, where pts receive evidence-based care (introduction for CVD in 2004) ■ patients are treated according to the available medical knowledge ■ sickness funds agree on contracts with providers and install their own provisions for informing/motivating pts to enrol; and for patient education and programme evaluation ■ standardised contracts for DMPs between sickness funds and healthcare providers		■ community-based CVD prevention programme ■ national-level policy changes/legislation ■ behavioural change through community action and participation, supported by screening of high-risk individuals and medical treatment ■ systematic population-based risk factor monitoring ■ risk factor surveys have been conducted every 5y		
Duration of intervention	Participants' average enrolment time: slightly more than 1 year	Participants' average enrolment time: slightly more than 4 years	n.r.		
Setting	Primary care (outpatient and inpatient)		Community primary care		
Involved professional groups	Healthcare providers, physicians		Nurses, physicians, health experts		
Intervention of control group	Standard treatment	-	Standard care in neighbouring province (reference area)	-	-
Implementation status	Implemented in Germany since 2004 at a national level		■ province of North Karelia was original target area (pilot programme) ■ after the original 5-year period, project was continued as national demonstration ■ after 25 years, project was formally ended, but national preventive activities continue ■ strategies have been reproduced using similar design in numerous international and national strategy documents → e.g., WHO Global Action Plan on Prevention and Control of Non-communicable Diseases for 2013 to 2020		
Effectiveness					
Effectiveness outcome measurements (outcomes)	EQ-5D visual analogue scale (quality of life); weight and height (body mass index); questionnaire on healthcare services use (physician counselling for smoking, nutrition, and physical activity; medication)	Evaluation of pts data from health insurances, physicians, and inpatient facilities (mortality, myocardial infarction, stroke, angina pectoris, heart failure, smoking rate)	Blood pressure measurements, determination of serum cholesterol, questionnaire ([non-]smokers)	Self-administered questionnaire (risk factor data); physical measurements (e.g., blood pressure); blood samples (e.g., serum cholesterol)	-

Project name	Disease management programme		North Karelia		
Author, year [reference]	**Gapp, 2008 [63]**	**Berendes, 2018 [64]**	**Jousilahti, 1994 [65]**	**Jousilahti, 2016 [66]**	**Puska, 2016 [67]**
Effectiveness outcomes **Absolute effects (mean, SD, p-value of overall effect [baseline and FU]**	**Factors of enrolment in DMP:** pts tend to be younger and have higher disease burden; **Quality of health care services of DMP[25]:** DMP group: better quality of healthcare services (short to medium term); ***medical counseling for*** (%/mean; OR[95% CI]): *smoking*: DMP: 95.5; non-DMP: 83.6; 3.8 (1.1-13.3); **p≤0.05**; *nutrition*: DMP: 76.3; non-DMP: 60.1; 2.2 (1.7-2.7); **p≤0.001**; *physical activity*: DMP: 81.9; non-DMP: 64.8; 2.6 (2.0-3.4); **p≤0.001**; **Quality of health outcomes of DMP:** no significant improvements in quality of life and body mass index; minor reduction in smoking; quality of life: DMP: 64.6; non-DMP: 65.7; 0.1 (SE 1.0); *body mass index*: DMP: 28.4; non-DMP: 27.9; 0.2 (SE 0.2); *smoking*: DMP: 10.1; non-DMP: 12.2; 0.8 (0.5-1.2); **Medication: *higher in DMP group:*** *prescription of statins* (OR 1.6, CI 1.2–2.0), antiplatelets (OR 2.0, CI 1.4–2.7), beta-blockers (not significant);	**Mortality** (proportion of pts who died in year of participation; cross-sectional): baseline[26]: 3.0%, end[27]: 5.5%; **Myocardial infarction** (cumulative rate of event-free time): baseline: 100%; end: 91.6%; **Stroke** (cumulative rate of event-free time): baseline: 100%; end: 95.2%; **Angina pectoris** (proportion of pts with at least 1 documented angina pectoris episode in participation semester; cross-sectional): baseline: 32.4%; end: 9.4%; **Heart failure** (cumulative rate of event-free time): baseline: 100%; end: 66.6%; **Smoking rate** (smokers according to initial documentation and current smoking status; cross-sectional): baseline: 100%; end: 49.6%	→ principal risk factors: cigarette smoking, high blood pressure and high levels of total serum cholesterol ***In %:*** **No risk factors: *North Karelia:*** *men:* **1972:** 12.2 (10.6-13.4); **1987:** 28.9 (26.2-31.5); **p<0.001**; *women:* **1972:** 22.0 (20.1-23.9); **1987:** 47.5 (44.7-50.3); **p<0.001**; ***Kuopio Province:*** *men:* **1972:** 14.3 (12.9-15.7); **1987:** 25.5 (22.0-29.0); **p<0.001**; *women:* **1972:** 26.2 (24.5-27.9); **1987:** 50.0 (46.1-53.9); **p<0.001**; **Any one risk factor: *North Karelia:*** *men:* **1972:** 31.0 (28.8-33.2); **1987:** 41.8 (38.9-44.7); *women:* **1972:** 39.4 (37.2-41.6); **1987:** 37.9 (35.2-40.6); ***Kuopio Province:*** *men:* **1972:** 34.2 (32.3-36.1); **1987:** 41.9 (37.9-45.9); *women:* **1972:** 41.7 (39.8-43.6); **1987:** 38.1 (34.3-41.9); **Any 2 risk factors: *North Karelia:*** *men:* **1972:** 41.7 (39.4-44.0); **1987:** 23.3 (20.8-25.8); *women:* **1972:** 36.6 (34.4-38.8); **1987:** 13.5 (11.6-15.4); ***Kuopio Province:*** *men:* **1972:** 37.6 (35.7-39.5); **1987:** 25.9 (22.4-29.4); *women:* **1972:** 30.0 (28.2-31.8); **1987:** 10.8 (8.9-12.7); **Any 2 or 3 risk factors: *North Karelia:*** *men:* **1972:** 56.9 (54.6-59.2); **1987:** 29.2 (26.5-31.8); **p<0.001**; *women:* **1972:** 38.6 (36.4-40.8); **1987:** 14.6 (12.6-16.5); **p<0.001**; ***Kuopio Province:*** *men:* **1972:** 51.5 (49.5-53.7); **1987:** 32.6 (28.8-36.4); **p<0.001**; *women:* **1972:** 32.1 (30.3-33.9); **1987:** 11.9 (9.4-14.4); **p<0.001**;	**CHD mortality: *men:*** 1972-2012: 82% decrease (from 643 to 118 per 100,000); ***women:*** 1972-2012: 84% decrease (from 114 to 17 per 100,000); **Age-adjusted mortality: *men:*** reduced from 858 to 163 per 100,000; average annual decline: 4.4% (**p < 0.001**); ***women:*** from 202 to 34 per 100,000; 4.9% (**p < 0.001**); **Smoking prevalence** (%): ***men:*** 1972: 52.6 (51.2-54.1); 2012: 29.3 (25.6-32.9); ***women:*** 1972: 11.4 (10.5-12.3); 2012: 19.4 (16.5-22.3) **Serum total cholesterol** (mmol/l): ***men:*** 1972: 6.8 (6.7-6.8); 2012: 5.4 (5.4-5.5); ***women:*** 1972: 6.7 (6.7-6.7); 2012: 5.3 (5.2-5.4) small increase between 2007 and 2012 **Systolic blood pressure** (mm Hg): ***men:*** 1972: 147.1 (146.5-147.7); 2012: 135.9 (134.5-137.2); ***women:*** 1972: 149.2 (148.5-149.9); 2012: 129.1 (127.9-130.4)	■ changes in target risk factors ■ 2011: decline in age-adjusted coronary heart disease mortality (35-64y old males) by 84% in North Karelia and by 82% in all of Finland ■ large gap between North Karelia and all of Finland disappeared in the 2000s

[25] "To investigate whether enrolled patients receive more extensive and guidelineoriented medical care than non-enrolled patients."

[26] Baseline means first year in DMP.

[27] Patients spent a maximum of 13 years in the DMP, which applies to all other outcomes too.

Project name	Disease management programme		North Karelia		
Author, year [reference]	**Gapp, 2008 [63]**	**Berendes, 2018 [64]**	**Jousilahti, 1994 [65]**	**Jousilahti, 2016 [66]**	**Puska, 2016 [67]**
Implementation					
Implementation outcome measurements (outcomes)	-	-	-	-	-
Implementation process evaluation	-	-	-	-	***Transfer to national level and other countries:*** → every country has to find its own way in its specific cultural, social, administrative and political situation **North Karelia as a demonstration:** ■ North Karelia continued as a national "demonstration" → North Karelia would serve national work and national interest would help programme continuation in North Karelia ■ using demonstration area (North Karelia) to promote and stimulate national preventive work **National focal point:** ■ coordinating center moved to National Public Health Institute → strong official institutional base and authoritative support ■ transferring the leadership to national level → important for sustained continuation of programme **Monitoring and feedback:** ■ comprehensive evaluation and monitoring system ■ feedback of trends and other information to population and stakeholders ■ biannual rapid heath behaviour surveys and larger risk factor surveys **Leadership – collaboration:** ■ principle was to combine strong leadership with broad collaboration ■ visible, strong, dedicated, persistent, and long-term leadership ■ personal publicity important **Links with international and global work:** ■ worldwide risk factors (despite cultural differences) are similar, and many of their determinants are global ■ action to fight CVD must be global ■ activities linked to international efforts and WHO **Social change as the basic issue:** ■ focus on how to influence decision making for policies and private sector

Project name	Disease management programme		North Karelia		
Author, year [reference]	**Gapp, 2008 [63]**	**Berendes, 2018 [64]**	**Jousilahti, 1994 [65]**	**Jousilahti, 2016 [66]**	**Puska, 2016 [67]**
Implementation process evaluation *(continuation)*					***Main reasons for success:*** **Appropriate theory base:** ■ correct/appropriate public health understanding of the problem ■ epidemiological considerations about risk factors and role of lifestyles led to community-based approach's adoption ■ community-based approach shifted risk factor profile of population and targeted whole community with its social/physical structures → using behavioural/social frameworks **Flexible intervention:** ■ responding to practical situations and naturally occurring possibilities in community ■ collaboration with local population ■ interaction with different organisations ■ listen to the views/issues in community **Intensive intervention:** ■ intervention's dose important ■ mobilise activities that reached many people (in their everyday lives) **Working with people:** ■ message to people that reduction of the cardiovascular burden can only be done by themselves ■ local people were involved in organisation **Community organisation:** ■ basic idea: change the community ■ individual behaviours tend to follow community's lifestyle patterns ■ interaction with community ■ discuss with organisations how to contribute to project's practical objectives ■ 2 principles: 1. much of the influence was on the basis of personal contacts and trust; 2. "win-win" situations: collaboration would benefit both the Project and partner ■ media publicity provided public pressure, recognition, or financial incentives to partners **Work with health services:** ■ health services must be supportive and form backbone of local activities ■ project established close contacts to health services through training seminars, written materials and guidelines, monitoring, and personal contacts

Project name	Disease management programme		North Karelia		
Author, year [reference]	**Gapp, 2008 [63]**	**Berendes, 2018 [64]**	**Jousilahti, 1994 [65]**	**Jousilahti, 2016 [66]**	**Puska, 2016 [67]**
Implementation process evaluation *(continuation)*					**Official authority:** ■ link to official administrative structures and health authorities ■ activities linked with national official guidelines and programs **Limited targets – outcomes orientation:** ■ critical/limited targets and clear outcomes (target risk factors) ■ changes in diet and reduction in smoking rates **Positive messages:** ■ heart disease can be prevented by practical positive action (positive messages e.g., enjoying heart-healthy diets) ■ information from monitoring was used to give feedback to people about positive changes in dietary habits, risk factors, and disease rates **Bottom-up, top-down:** ■ blended model was used **Working with the media:** ■ key elements in working with population ■ reporting to people about activities and results ■ link media messages as much as possible with the work in the field ■ project was widely covered in the national media
Comments	-	Reports are designed as cohort studies, which "allows the disease's development of all insured persons as a function of the length of their programme participation."	Highest CVD incidence in Finland worldwide	Additionally to the 3 classical risk factors, e.g., physical inactivity, obesity, and elevated blood glucose, and diabetes, have been identified as major causes for CHD.	

CHD – Coronary heart disease; CVD – Cardiovascular diseases; DMP – disease management programme; EQ-5D – EuroQol Health Questionnaire; pts – patients; SE – standard error; WHO – World Health Organization.

Chronic respiratory diseases

Table A-11: Data extraction table, programmes for chronic respiratory diseases

Project name	Living well with COPD		Disease management programme	
Author, year [reference]	**Strassmann, 2021 [68]**	**Steurer-Stey, 2018 [69]**	**Kannies, 2020 [70]**	**Achelrod, 2016 [71]**
Study characteristics				
Indication	COPD		Asthma & COPD	COPD
Country (affiliation corresponding author)	Switzerland (programme originally from Canada)		Germany	
Study design/aim of study	Pre-post analysis of pts data (effectiveness) Qualitative and quantitative methods (process evaluation) ■ to evaluate the nationwide implementation of the "Living well with COPD" program in various cantons in Switzerland	Prospectively planned, non-randomised controlled study ■ to compare COPD patients who participated in the "Living well with COPD" self-management intervention with usual care patients regarding behaviour change and disease-specific health-related quality of life after 1 year	Prospective multicentre cross-sectional study ■ to investigate whether disease control and impairment differs in DMP-participants and non-DMP-participants	Non-experimental, retrospective population-based cohort study using administrative data ■ to investigate causal effect of DMP intervention in routine care by applying a combination of entropy balancing and difference-in-difference ■ to examine effects of the German COPD DMP over 3 years on health resource utilisation from payer perspective, process quality, morbidity and mortality
Study population (pts/care providers)	Pts (patients with a physician-diagnosed COPD with any GOLD [Global Initiative for Chronic Obstructive Lung Disease] stage I-IV), care providers (coaches, program pulmonologists, program managers, master coaches)	Pts ≥ 40 years, with a (current or past) smoking habit, a confirmed diagnosis of COPD, and a ratio of $FEV_1/FVC \leq 0.7$	Pts ≥ 18 years, diagnosed with asthma or COPD at least one year ago	Pts ≥ 18 years with COPD diagnosis
Number of included pts/analysed pts	122/94	467 (I 71 vs. C 396)	1,038 asthma patients 846 COPD patients (70% in DMP programme)	215,104 (25,269 in DMP)
Dropouts	28	n.r.	n.r.	None except for the case of forced expiratory volume values and insurance status
Age, years (mean ± SD)	69.3 ± 8.2	I: 69.3±10.3; C: 67.1±10.0	**Asthma:** DMP participants: mean 53.3 (SD 15.6); non-DMP: mean 50.2 (SD 17.2) **COPD:** DMP participants: mean 66.4 (SD 9.8); non-DMP: mean 65.7 (SD 10.1)	DMP participants: 67.4 Non-DMP: before entropy balancing: 65.7; after entropy balancing: 67.4
Sex	53% male	I: 39.4% male, C: 56.8% male	**Asthma:** 66.0% female **COPD:** 40.7% female	I: 55.5 females C: before entropy balancing: 61.5 females; after entropy balancing: 55.5 females
Last follow-up after baseline assessment	14 months after baseline (phone calls)	24 months after baseline (phone calls)	12 months	3y

Project name	Living well with COPD		Disease management programme	
Author, year [reference]	**Strassmann, 2021 [68]**	**Steurer-Stey, 2018 [69]**	**Kannies, 2020 [70]**	**Achelrod, 2016 [71]**
Intervention				
Prevention/management	Management		Management	
Aims	■ Help pts cope better with their disease and improve health-related quality of life ■ Behaviour change to avoid moderate/severe exacerbations ■ Effectiveness of the programme on the pts level		■ modify treatment pathways in accordance with state of the art clinical guidelines and to enable patient self-management ■ improve quality of long-term care for pts with asthma bronchial and COPD by optimising symptom control and preventing exacerbations ■ increase life expectancy and quality of life of pts ■ increase the efficient use of health care resources, and to generate cost-savings	
Intervention	Self-management programme: ■ 6 group modules à 90min (preventing/controlling symptoms, medications/inhalers, breathing/coughing techniques, energy conservation, physical activity, healthy lifestyle) ■ 3 main dimensions: knowledge, skills and confidence/motivation to use skills ■ individual one-on-one coaching sessions with coach/pulmonologist to assess individual needs, goals, barriers and personal views/emotions		■ DMP is a multi-component chronic care model ■ treatment process that improves coordination of treatment courses ■ DMPs follow integral approach of disease management, stressing a general practitioner based coordination of care ■ patients with a secured diagnosis of certain chronic diseases can voluntarily participate in a DMP and may benefit from financial incentives	
Duration of intervention	6 weeks		Minimum of 12 months	Minimum of 3 years
Setting	Primary care setting (tertiary prevention)		Primary care (inpatient and outpatient setting)	
Involved professional groups	(Master) coaches, pulmonologists, programme managers	Physician, pulmonologist, respiratory physiotherapist	Physicians, medical assistants	general practitioner
Intervention of control group	-	Routine care	Non-DMP participants	Standard care
Implementation status	■ Programme was successfully implemented in Switzerland ■ Involved persons showed high satisfaction with programme's implementation		Implemented and evaluated in Germany	
Effectiveness				
Effectiveness outcome measurements (outcomes)	CRQ (HRQoL); mMRC (dyspnoea's severity); CAT (impact of COPD on wellbeing and daily life); questionnaire (confidence in COPD self-management); 1-min STS (functional exercise capacity); amount of inpatient treatments and outpatient consultations; number of event-based COPD exacerbations; smoking status	CRQ (HRQoL after 1y); self-reported exacerbations with event-based definition (exacerbation rates over 2y); adapted Self-Efficacy for Managing Chronic Disease Scale (smoking cessation rate and self-efficacy)	Questionnaires: ACT (asthma control), CAT (COPD symptoms), MiniAQLQ and CRQ-SAS (quality of life), HADS (anxiety and depression), FEAV (avoidance of anxiety), SSUK (social support)	Mortality rate, prevalence of frequent comorbidities of COPD (morbidity and mortality), number of inpatient days, average length of stay, proportion of hospitalised pts (healthcare utilisation), pts receiving COPD-specific treatment with beta-blockers and oral corticosteroids (process quality)
Effectiveness outcomes **Absolute effects (mean, SD, p-value of overall effect [baseline and FU]**	***Data are mean ± SD of basline and FU; p-value:*** **HRQoL:** dyspnoea (baseline 4.4 ± 1.3; FU 4.7 ± 1.4**; p<0.01**), fatigue (4.4 ± 1.1; 4.5 ± 1.3; p>0.05), emotional function (4.8 ± 1.1; 5.1 ± 1.2; **p<0.05**), mastery (4.8 ± 1.2; 5.3 ± 1.3; **p<0.01**)	**HRQoL:** significant, clinically relevant (MID >0.5) treatment effects for all subscales; ***subscales (group difference [95%CI], p-value)***: **mastery:** 0.5 (95% CI 0.1–0.9), **p<0.05**;	***Asthma*** *(mean difference [95% CI]; p-value):* **Asthma control:** 0.9 (0.3-1.4); p=**0.003** (not clinically relevant)	→ COPD DMP achieved a significant improvement in mortality, morbidity and process quality; however, this progress came at higher costs and healthcare utilisation compared to standard care **Mortality and morbidity** (difference-in-difference estimator; ATT[28]; SE; p-value):

[28] "Average treatment effect for the treated represents excess resource utilisation attributable to DMP."

Project name	Living well with COPD		Disease management programme	
Author, year [reference]	**Strassmann, 2021 [68]**	**Steurer-Stey, 2018 [69]**	**Kannies, 2020 [70]**	**Achelrod, 2016 [71]**
Effectiveness outcomes **Absolute effects (mean, SD, p-value of overall effect [baseline and FU]** *(continuation)*	**dyspnoea's severity:** 1.9 ± 1.1; 1.7 ± 1.2; p>0.05 *impact of COPD on* **wellbeing and daily life**: 16.7 ± 6.8; 16.0 ± 7.5; p>0.05 **functional exercise capacity:** 23.9 ± 8.3; 27.1 ± 10.1; **p<0.001** *confidence in COPD* **self-management**: pulmonary medication (8.8 ± 2.3; 9.3 ± 1.4; p>0.05), inhalation (8.8 ± 1.9; 9.3 ± 1.4; **p<0.05**), physical activity (8.3 ± 2.2; 8.0 ± 2.4; p>0.05), worsening of symptoms (7.5 ± 2.3; 8.5 ± 1.5; **p<0.001**), emergency medication according action plan (8.3 ± 2.2; 8.5 ± 2.0; p>0.05), consult a physician/ pulmonologist (8.2 ± 2.1; 8.8 ± 1.6; **p<0.05**) *COPD* **exacerbations**: 1.3 ± 2.1; 1.1 ± 1.8; p>0.05 **outpatient medical treatments:** 8.9 ± 5.6; 6.1 ± 5.6; **p<0.001** **inpatient medical treatments:** 0.5 ± 1.1; 0.4 ± 1.0; p>0.05 **days in hospital** *due to COPD*: 3.1 ± 7.1; 3.4 ± 8.0; p>0.05 **current smokers** (n [%]): 18 (19.4); 13 (14.0); p>0.05	**fatigue:** 0.6 (95% CI 0.1–1.0), **p<0.05**; **emotional function:** 0.5 (95% CI 0.1–0.9), **p<0.01**; **dyspnoea:** 0.6 (95% CI 0.1–1.1), **p<0.05**; *incidence rate ratio (IRR) of* **exacerbations**: 0.4 (95% CI 0.3–0.5), **p<0.0001** *no. of exacerbations (mean ± SD)*: I: 1.3 ± 1.6, C: 1.6 ± 2.1; **smoking cessation:** ***after 1y:*** OR 1.1 (95% CI 0.3 to 4.0); ***after 2y:*** OR 0.7 (95% CI 0.2 to 2.2); **self-efficacy for intended health behaviour** *after 2y (baseline median (IQR), 2y median (IQR))*: **daily inhalation:** 10 (9-10), 10 (10-10); **correct inhalation technique:** 8 (8-10), 10 (10-10), **p<0.001**; **timely recognition of deterioration:** 7 (5-8), 10 (10-10), **p<0.001**; **physically active:** 7 (4–10), 7 (5–10);	**Quality of life:** 0.2 (0,1-0.4); p=**0.002** (not clinically relevant) **Anxiety and depression:** –0.5 (– 1.5-0.4); p=0.3 **Avoidance of anxiety:** –0.1 (– 0.2-0.0); p=0.2 **Social support (supporting):** –0.1 (– 0.6-0.3); p=0.5 **Social support (stressful):** –0.6 (– 1.1 (-)-0.2); p=**0.006** ***COPD:*** **COPD symptoms:** 0.5 (– 0.7-1.8); p=0.4 **Quality of life:** –0.5 (– 1.2-0.3); p=0.2 **Anxiety and depression:** –0.7 (– 1.9-0.4); p=0.2 **Avoidance of anxiety:** –0.1 (– 0.2-0.1); p=0.5 **Social support (supporting):** –0.2 (– 0.8-0.4); p=0. 5 **Social support (stressful):** –0.0 (– 0.6-0.5); p=1.0	*(Non-)invasive ventilation*: I: baseline: 1.27; end: 4.0; C: baseline: 1.1; end: 3.2; 0.6; 0.0; **p<0.001** *Depressive episode*: I: baseline: 21.0; end: 26.0; C: baseline: 19.2; end: 25.1; –0.9; 0.0; **p<0.001** *Heart failure*: I: baseline: 19.4; end: 27.5; C: baseline: 18.5; end: 26.1; 0.4; 0.00; p>0.05 *Medication-induced osteoporosis*: I: baseline: 0.9; end: 1.5; C: baseline: 1.0; end: 1.3; 0.3; 0.0; **p<0.001** *Cachexia*: I: baseline: 1.8; end: 4.0; C: baseline: 1.5; end: 3.5; 0.2; 0.0; p>0.05 *All-cause mortality (in %):* I: 10.0; C: 11.2; ATT –1.2; **p<0.001** ■ reduction of 11% in 3-year mortality hazard rate in DMP group (HR: 0.9 [0.8-0.9]) ■ adherence to medication guidelines and indicators for morbidity improved **Healthcare utilisation** (difference-in-difference estimator; ATT; SE; p-value): *Average length of hospital stay due to COPD*: I: baseline: 6.8; end: 5.6; C: baseline: 6.0; end: 5.3; –0.5; 0.2; **p<0.01**; *Inpatient stays due to COPD*: I: baseline: 0.04; end: 0.06; C: baseline: 0.03; end: 0.04; 0.01; 0.00; **p<0.001** *Proportion hospitalised (in %) due to COPD*: I: baseline: 6.8; end: 9.7; C: baseline: 5.4; end: 6.3; 1.9; 0.2; **p<0.001** *Physician visits due to COPD*: I: baseline: 2.6; end: 4.7; C: baseline: 3.0; end: 2.8; 2.3; 0.0; **p<0.001** *Prescriptions*: I: baseline: 23.96; end: 27.3; C: baseline: 24.5; end: 25.0; 2.8; 0.1; **p<0.001** ■ healthcare utilisation was more intense in DMP arm with more hospitalisations, outpatient physician visits and pharmaceutical prescriptions ■ average length of hospitalisation due to COPD fell by 0.5 days **Process quality** (in %; difference-in-difference estimator; ATT; SE; p-value)**:** *β2-adrenergic agonists*: : baseline: 23.4; end: 31.0; C: baseline: 18.1; end: 17.7; 8.1; 0.0; **p<0.001** *Anticholinergics*: : baseline: 30.9; end: 44.6; C: baseline: 18.0; end: 20.7; 11.0; 0.0; **p<0.001** *Corticosteroids*: : baseline: 30.9; end: 39.1; C: baseline: 25.9; end: 31.0; 3.1; 0.0; **p<0.001** *Influenza vaccinated*: : baseline: 22.2; end: 52.6; C: baseline: 21.7; end: 43.6; 8.5; 0.0; **p<0.001** ■ process quality indicators improved for the DMP group

Project name	Living well with COPD		Disease management programme	
Author, year [reference]	**Strassmann, 2021 [68]**	**Steurer-Stey, 2018 [69]**	**Kannies, 2020 [70]**	**Achelrod, 2016 [71]**
Implementation				
Implementation outcome measurements (outcomes)	Average pts' attendance rates at group modules, percentage FU calls (reach); number of programmes/modules, modules' duration, amount of delivered material (dose); checklist (fidelity); semi-structured interviews with programme managers, 2 questions to pts/ coaches, pts' questionnaire (acceptability)	-	-	-
Implementation process evaluation	*Reach*: 89% of 83% eligible pts participated; pts attendance at group modules 81%; FU calls 97.4% (1 month) 88.7% (12 months) *dose*: 13 groups of pts, modules lasted Ø 115min *fidelity*: based on coaches' checklists for each group modules: 94% of topics covered on average and across all modules (range 83%-98%); master coaches' checklist: 84% covered *acceptability*: professionals: very high; pts: (very) good	-	-	-
Comments	■ Programme's implementation process followed 6-step approach ■ Effects of patients' health in accordance with Swiss governmental health strategy (Gesundheitsförderung Schweiz, Strategie 2019-2024) ■ Guidance for implementation in other countries	■ Success due to multidisciplinary team and regular contact which empowered patients and promoted safety. ■ Need for regular proactive care and FU.	■ In 2002, sickness funds implemented DMPs for chronic conditions ■ proven efficacy of DMPs in randomised studies abroad, but not in Germany	

1-min STS – 1-minute sit-to-stand test; ACT – Asthma Control Test™; C – control group; CAT – COPD Assessment Test; CAT – COPD Assessment Test™; COPD – chronic obstructive pulmonary disease; CRQ – Chronic Respiratory Disease Questionnaire; CRQ-SAS – Self-reported Chronic Respiratory Questionnaire; DMP – Disease Management Programme; FEAV – Fear Avoidance for COPD; FEV_1 – forced expiratory volume in 1 second; FU – follow-up; FVC – forced vital capacity; HADS – Health Anxiety and Depression Scale; HRQoL – health-related quality of life; I – intervention group; IQR – interquartile range; IRR – incidence rate ratio; MID – minimal important difference; MiniAQLQ – Mini Asthma Quality of Life Questionnaire; mMRC – modified Medical Research Council; OR – odds ratios; Pts – patients; SD – standard deviation; SSUK – Skalen zur sozialen Unterstützung bei Krankheit; y – year(s).

Diabetes Type II

Table A-12: Data extraction table, programmes for diabetes type II (part I)

Project name	GLICEMIA		Finnish Diabetes Prevention Study	
Author, year [reference]	**Schmiedel, 2015 [72]**	**Schmiedel, 2020 [73]**	**Lindström, 2003 [76]**	**Lindström, 2013 [77]**
Study characteristics				
Indication	Diabetes		Diabetes	
Country (affiliation corresponding author)	Germany		Finland	
Study design/aim of study	Cluster-randomised controlled trial ■ to assess the efficacy of the 12-month diabetes prevention programme GLICEMIA conducted in community pharmacies in reducing the risk of diabetes ■ to evaluate health-related quality of life and satisfaction during participation		Randomised controlled trial ■ to assess the efficacy of the lifestyle intervention used in the Finnish Diabetes Prevention Study on short- and long-term changes in diet and exercise behaviour and diabetes risk	
Study population (pts/care providers)	Adults ≥ 35 years old, with increased risk for diabetes according to the Finnish Diabetes Risk Score (FINDRISC) ≥7		Adults aged 40-64 years, with BMI >25 kg/m^2 and mean value of 2 OGTTs in the impaired glucose tolerance range	
Number of included pts/analysed pts	1,140/1,092 (I 530 vs. C 562)	1140/1,087 (I 527 vs. C 560)	522 (I 265 vs. C 257)/after 1y: 506 (I 256 vs. C 250)/after 3y: 434 (I 231 vs. C 203)/after 13y: 366 (I 200 vs. C 166)	
Dropouts	148 (13%)		32 (6%)	86 (16%)
Age, years	57.5 ± 11.3		55 ± 7	
Sex	68% female		I 66% vs. C 68% female	
Last follow-up after baseline assessment	12 months		36 months	Median of 9 years
Intervention				
Prevention/management	Prevention		Prevention	
Aims	■ to prevent type II diabetes and support affected persons in their change of lifestyle		■ main goals of the lifestyle intervention: weight reduction ≥5%, moderate intensity physical activity ≥30 min/day (or min. 4 hours/week), dietary fat <30 proportion of total energy (E%), saturated fat <10 E%, and fibre ≥15 g/1,000 kcal ■ to equip participants with necessary knowledge and skills and to achieve gradual, permanent behavioural changes	
Intervention	***GLICEMIA programme:*** ■ participants received written information about a healthy diet and physical activity ■ 3 individual counselling sessions with trained pharmacist: discussion of diet and physical activity and recording in an individual prevention journal at baseline; monitoring of goal attainment and agreement on new personal objectives after 6 and 12 months ■ 5 group-based lectures lasting 75-90 minutes and covering the following topics: diabetes and risk factors, healthy diet for diabetes prevention, physical activity, psychological aspects of behaviour change, maintenance of a healthy lifestyle		***DPS lifestyle intervention programme:*** **Dietary intervention:** ■ face-to-face consultation sessions (from 30 min to 1 h) with the study nutritionist at weeks 0, 1-2, and 5-6, and at months 3, 4, 6, and 9, i.e., altogether 7 sessions during the first year and every 3 months thereafter ■ first-year sessions had pre-planned topics (e.g., diabetes risk factors, saturated fat, fibre, physical activity, problem-solving), but the discussions were individualised, focusing on specific individual problems ■ voluntary group sessions, expert lectures, low-fat cooking lessons, visits to local supermarkets, and between-visit phone calls and letters	

Project name	GLICEMIA		Finnish Diabetes Prevention Study	
Author, year [reference]	**Schmiedel, 2015 [72]**	**Schmiedel, 2020 [73]**	**Lindström, 2003 [76]**	**Lindström, 2013 [77]**
Intervention (continuation)	■ use of self-monitoring tools to support dietary change, exercise increase and gradual lifestyle change, e.g. pedometer, exercise diary, food pyramid		■ dietary advice was based on 3-day food records, which were completed 4 times yearly **Exercise intervention:** ■ individual guidance by nutritionist and physician to increase overall level of physical activity; offer of supervised, progressive, individually tailored circuit-type moderate intensity resistance training sessions, and organisation of voluntary group walking and hiking	
Duration of intervention	12 months		12 months (most intensive intervention during the first year, followed by a maintenance period)	
Setting	Community pharmacies		Primary health care	
Involved professional groups	Pharmacists		Physician, study nurse, nutritionist, exercise instructor/physiotherapist	
Intervention of control group	■ written information about a healthy diet and physical activity ■ assessment and information about health status at baseline and after 6 and 12 months, no further counselling		■ general information about lifestyle and diabetes risk, individually or in 1 group session, and printed material ■ no individualised counselling	
Implementation status	Not yet implemented, except in trial participating pharmacies		n.r.	
Effectiveness				
Effectiveness outcome measurements (outcomes)	FINDRISC (change in diabetes risk); assessment of weight (weight change); assessment of blood pressure (change in systolic/diastolic BP); self-developed demographic and behaviour questionnaire (e.g., physical activity)	12-item Short Form Health Survey (physical and mental quality of life); feedback questionnaire (satisfaction with intervention and care, perceived benefit, subjective health status of participants)	Baseline and annual OGTT (diabetes diagnosis), physical examination (e.g., weight), 3-day food records (nutrient intake), Kuopio Ischaemic Heart Disease Risk Factor Study 12-month LTPA questionnaire (physical activity)	Clinical measurements (e.g., diabetes diagnosis), 3-day food records (nutrient intake), Kuopio Ischaemic Heart Disease Risk Factor Study 12-month LTPA questionnaire (physical activity)
Effectiveness outcomes **Absolute effects (mean, SD, p-value of overall effect [baseline and FU])**	***Change from baseline to FU (adjusted effect size (95% CI))*** *Change in FINDRISC:* -0.7 (–1.0 to –0.4) *Mean weight change (kg):* –1.6 (–2.2 to –0.9) *Change in systolic BP (mmHg):* 0.4 (–1.9 to 2.7) *Change in diastolic BP (mmHg):* 0.4 (–0.9 to 1.8) *Change in physical activity (h/week):* 0.5 (0.3 to 0.7) ***Diabetes risk reduction according to FINDRISC, I vs. C (%, p-value):*** I 39% vs. C 21%, **p<0.001**	***Change from baseline to FU (adjusted effect size (95% CI))*** *Change in SF-12 physical component summary (QoL):* 2.4 (1.4 to 3.3) *Change in SF-12 mental component summary (QoL):* 1.1 (-0.2 to 2.4) ***Subjective health status, I vs. C (%, p-value):*** I 51% better, 33% partly better vs. C 25% better, 30% partly better, **p<0.001** ***Perceived overall benefit, I vs. C (%, p-value):*** I 23% very high, 43% high vs. C 11% very high, 31% high, **p<0.001** ***Satisfaction with care:*** significantly higher in intervention group in 7 of 12 items	***Change from baseline to year 1, I vs. C (mean ± SD, p-value)*** *Weight (%)*: -5.1 ± 5.3 vs. -1.1 ± 4.2, **p<0.0001** *Total LTPA (min/week)*: 16 (-126 to 115) vs. 21 (–133 to 138), p=0.9 *Moderate-to-vigorous LTPA (min/week)*: 49 (–41 to 140) vs. 14 (–47 to 90), **p=0.007** ***Change from baseline to year 3, I vs. C (mean ± SD, p-value)*** *Weight (%)*: -4.0 ± 5.8 vs. -1.1 ± 6.2, **p<0.0001** *Total LPTA (min/week)*: 50 (–126 to 115) vs. 23 (–142 to 171), p=0.2 *Moderate-to-vigorous LTPA (min/week)*: 61 (–33 to 168) vs. 6 (–91 to 104), **p=0.006** ***Achievement of the specific intervention goals, I vs. C (% of participants, p-value):*** *Weight loss ≥5%*: 46% vs. 14%, **p<0.0001** *Fat <30 E%*: 37% vs. 20, **p<0.0001** *Saturated fat <10 E%*: 21% vs. 9%, **p<0.0001** *Fibre ≥15 g/1,000 kcal:* 37% vs. 23%, **p<0.0006**	***Diabetes incidence, I vs. C:*** *During total FU period (n (%)):* 106 (40%) vs. 140 (54%) *Incidence rate per 100 person-years (95% CI)*: 4.5 (3.8 to 5.5) vs. 7.2 (6.1 to 8.5) *Hazard Ratio ((95% CI), p-value)*: 0.6 (0.5 to 0.8), **p<0.001** Among those who developed diabetes, the median time to the onset of diabetes was 10 years in the control group and 15 years in the intervention group ***Lifestyle outcomes:*** Intervention group participants: more moderate-to-vigorous physical activity, more dietary changes (e.g., reduction of total energy and saturated fat, increase of fibre density), lower body weight compared with control group

Project name	GLICEMIA		Finnish Diabetes Prevention Study	
Author, year [reference]	**Schmiedel, 2015 [72]**	**Schmiedel, 2020 [73]**	**Lindström, 2003 [76]**	**Lindström, 2013 [77]**
Effectiveness outcomes **Absolute effects (mean, SD, p-value of overall effect [baseline and FU])** *(continuation)*			***Diagnosis of diabetes during the first 3 study years, I vs. C, (n (%), p-value):*** 22 (9%) vs. 51 (20%), **p=0.0001**	
Implementation				
Implementation outcome measurements (outcomes)	n.r.	*feedback questionnaire* (general feedback)	n.r.	n.r.
Implementation process evaluation	n.r.	■ on average, participants of the intervention group attended 4 lectures ■ pedometers were particularly often positively highlighted as a motivational tool ■ wish for more information and assistance with dietary changes by the participants	n.r.	n.r.
Comments	Feasible to carry out the programme GLICEMIA in community pharmacies	-	Lifestyle intervention can prevent or at least postpone type II diabetes; it is practical and can be implemented in primary health care	Lifestyle intervention aiming at weight reduction, a healthy diet and increased physical activity in high-risk individuals has a long-lasting effect in the prevention of type II diabetes

BP – blood pressure; C – control group; CI – confidence interval; DPS – Diabetes Prevention Study; E – total energy; FINDRISC – Finnish Diabetes Risk Score; FU – follow-up; HbA1c – haemoglobin A1c; I – intervention group; LTPA – leisure-time physical activity; n.r. – not reported; OGTT – oral glucose tolerance test; QoL – quality of life; RCT – randomised controlled trial; SD – standard deviation; SF-12 – 12-item Short Form Health Survey.

Table A-13: Data extraction table, programmes for diabetes type II (part II)

Project name	**Disease Management Programme Diabetes**	
Author, year [reference]	**Fuchs, 2014 [74]**	**Wiefarn, 2017 [75]**
Study characteristics		
Indication	Diabetes	
Country (affiliation corresponding author)	Germany	
Study design/aim of study	Systematic literature review ■ to bring together the available controlled studies evaluating the effectiveness of DMPs in Germany in a systematic review	Retrospective study based on patient data from the Disease Analyzer Panel, an adequate control group was created using 2:1 propensity score matching ■ to measure the effect of the German DMP for type II diabetes on HbA1c value
Study population (pts/care providers)	Pts with type II diabetes	
Number of included pts/analysed pts	9 studies (16 publications) with a range from 85 to 84,410 pts in DMP groups and a range from 64 to 78,137 pts in control groups	14,759 (DMP: 5,875, standard care: 8,884)
Dropouts	n.r.	-
Age, years	mean age between 62.8 and 70.7	DMP: 64.6, standard care: 64.9
Sex	DMP groups: from 39.7% to 64.7% male Control groups: from 39.7% to 64.4% male	DMP: 49.1% female, standard care: 48.8% female
Last follow-up after baseline assessment	Observation period between 2 months and 5y	-
Intervention		
Prevention/management	Management	
Aims	■ to improve the quality of health care and the treatment process ■ to provide better care for chronically ill people ■ to reduce secondary diseases, medication errors, hospital admissions and emergency admissions	
Intervention	n.r.	n.r.
Duration of intervention	n.r.	
Setting	Primary care	
Involved professional groups	GPs, diabetologists	
Intervention of control group	Standard care	
Implementation status	In Germany, DMPs were rolled out nationwide in 2002.	
Effectiveness		
Effectiveness outcome measurements (outcomes)	*Analysis of mortality and morbidity* (mortality, survival time, morbidity surrogates [e.g., attainment of therapeutic goals, hospital stays, blood pressure, cholesterol]), *SF-36/EQ-5D questionnaires* (QoL), *analysis of process parameters* (e.g., diagnostic measures/examinations, drug therapy, counselling, doctor contacts)	*Retrospective analysis of patient data* (reduction of HbA1c value), *subgroup analyses* (GP care vs. diabetologist care, high-risk group with an HbA1c baseline value of ≥8%, different age groups)

Project name	Disease Management Programme Diabetes	
Author, year [reference]	**Fuchs, 2014 [74]**	**Wiefarn, 2017 [75]**
Effectiveness outcomes **Absolute effects** **(mean, SD, p-value of overall effect [baseline and FU])**	**Mortality** the endpoints mortality (investigated in 3 publications based on 2 studies) and survival time (2 publications based on 1 study) show positive effects for DMP groups *Mortality rate (%):* ■ 1 study: DMP group: 2.3%, routine care: 4.7% ■ 1 study: DMP group: 12.8%, routine care: 21.7% (after matching: DMP group: 11.3%, routine care: 14.4%) ■ 1 study: DMP group: 7.2%, routine care: 14.7% *Survival time (mean ± SD):* ■ 1 study: DMP group: 1,045 ±190 days, routine care: 985 ±265 days **Morbidity and QoL** ■ the findings for morbidity and QoL are unclear, no general conclusions can be based on these ■ a clear positive effect in a DMP group can only be seen for cholesterol level, satisfaction with health and satisfaction with diabetes care (1 study each) **Process parameters** ■ 5 publications: clear positive effects for DMP groups, for example, regarding participation in diabetes education (statistically significant effects)	*Reduction of HbA1c value, %* ■ DMP: mean reduction of 1 percentage point (baseline: 8.1; FU: 7.1); ■ Standard care: mean reduction of 0.9 percentage points (baseline: 8.1; FU: 7.2); ■ DMP effect of **0.1** percentage point (95% CI: 0.0-0.2) (statistically significant effect, but clinical relevance unclear) *Subgroup analyses:* ■ with treatment by a diabetologist, the reduction of the HbA1c value in the DMP group was 0.3 percentage points higher than in the standard care group ■ the DMP effect was higher for patients in the age group 40-50 yrs and for patients with an initial HbA1c value of ≥ 8%
Implementation		
Implementation outcome measurements (outcomes)	n.r.	n.r.
Implementation process evaluation	n.r.	n.r.
Comments	■ long-term evaluations are needed ■ controlled observational studies are currently the best available option for evaluation of the potential effects of DMPs, as RCTs are no longer possible because of the nationwide roll-out of the DMPs	■ to investigate the relationship between HbA1c reduction and the reduction of micro- and macrovascular complications between the 2 treatment groups, a randomised clinical trial would be useful ■ before introducing new DMPs (for other indications, e.g. back pain), RCTs should be conducted to clarify the benefits of such cost-intensive interventions

CI – confidence interval; EQ-5D – EuroQol Health Questionnaire; FU – follow-up; GP – general practitioner; DMP – disease management programme; n.r. – not reported; pts – patients; QoL – Quality of life; RCT – randomised controlled trial; SF-36 – 36-Item Short Form Survey.

Mental health

Table A-14: Data extraction table, programmes for mental health

Project name	Stepped Care 2.0	Mental Health First Aid	
Author, year [reference]	**Cornish, 2019 [80]**	**Hadlaczky, 2014 [78]**	**Kitchener, 2008 [79]**
Study characteristics			
Indication	Mental health		
Country (affiliation corresponding author)	Canada (programme originally from the UK)	Sweden (programme originally from Australia)	Australia
Study design/aim of study	Mixed-methods evaluation -	Meta-analysis (incl. 15 articles: 12 Australian, 1 Canadian, 2 Swedish) ■ to synthesise published evaluations of the programme to estimate its effects and potential as a public mental health awareness-increasing strategy	Narrative description of ■ programme's development and evaluation, ■ cultural adaptation, and ■ roll-out and dissemination in 7 countries
Study population (pts/care providers)	Clients, health care providers	General public; but also more specific populations, e.g., pharmacy students, members of multicultural organisations, employees in government departments, workers in agricultural-related services, high school teachers	General public
Number of included pts/analysed pts	n=132 health care providers (baseline survey), n=32 health-care providers (provider post-implementation questionnaire), n=212 clients (client satisfaction survey)	Total number of 3,376 people among the included 15 studies (range: 23-753)	-
Dropouts	- (n=100 provider not responded to post-implementation questionnaire)[29]	-	-
Age, years	Clients: >18y	n.r.	-
Sex	n.r.	Majority female	-
Last follow-up after baseline assessment, months	- (project duration 18 months)	■ 5 studies: long-term FU 6 months after course completion ■ 8 studies: long-term FU between 6 weeks and 6 months after course completion ■ 2 studies: no FU	-

[29] Factors for low response rate, e.g., job changes, workload demands, length of the survey, lack of dedicated time to complete survey; baseline surveys were completed during in-person training workshops, while post-implementation surveys were emailed;

Project name	Stepped Care 2.0	Mental Health First Aid	
Author, year [reference]	**Cornish, 2019 [80]**	**Hadlaczky, 2014 [78]**	**Kitchener, 2008 [79]**
Intervention			
Prevention/management	Management	Prevention/management	
Aims	■ improve access to publicly funded mental health services ■ empowering clients to maximise and manage their wellness	■ improve mental health literacy and provide the skills/knowledge to help people manage mental health problems ■ empower the general public to approach, support and refer individuals in distress, improving attitudes and stimulating helping behaviours	
Intervention	E-mental health demonstration project: ■ Stepped Care 2.0 includes e-mental health programming, recovery-oriented practice, rapid access single-session therapy, and stepped care principles ■ evidence-based, client-centred stage system of care that prioritises the most effective and least intensive treatment (i.e., online self-help, peer support, counselling groups, specialist care) ■ ***9 steps:*** online self-help (**Steps 1 and 2**); peer support (**Step 3**); drop-in seminars and workshops **(Step 4**); blended in-person/online provider-assisted programs (**Step 5**); structured and unstructured counselling groups (**Step 6**); one-on-one sessions (**Step 7**); specialist care, e.g., psychiatric consults or residential treatment (**Step 8**); acute care and case management (**Step 9**)	■ 2-day standardised educational courses open to the general public ■ teach people how to recognise signs/symptoms of mental health problems, provide initial help, and guide them towards professional help ■ programme is defined as "the help provided to a person developing a mental health problem or in a mental health crisis. The first aid is given until appropriate professional treatment is received or until the crisis resolves." ■ the programme and all included materials are standardised ■ course content: symptoms and risk factors in depressive, anxiety, psychotic and substance use disorders and associated mental health crises situations ■ first aider's manual contains all essential parts of the course content, complemented by instructor guidelines, PowerPoint slides and exercises ■ instructor selection criteria: good knowledge of mental health problems, personal or professional experience with people with mental health problems, good background knowledge of mental health and community services, favourable attitudes towards people with mental health problems, good teaching and communication skills, good interpersonal skills, good business plan or organisational support ■ action plan ALGEE (procedure for courses): **A**ssess Risk of Suicide or Harm, **L**isten Non-judgmentally, **G**ive Reassurance and Information, **E**ncourage Person to Get Appropriate Professional Help, **E**ncourage Self-help Strategies	
Duration of intervention	n.r.	2-day course (12 hours)	
Setting	Clinical and community setting, online	Different settings, e.g. open courses, students, special communities, employees	Youth, non-English speaking communities, workplace settings, rural area
Involved professional groups	Social workers, psychologists, nurses, medical doctors, occupational therapists	■ individuals with pedagogical skills and interest in the topic were trained in a 5-day course to become a Mental Health First Aid instructor ■ instructors deliver a 2-day course open to the general public or specific groups, e.g., teachers, staff of the Family Court, healthcare workers	
Intervention of control group	-	■ In 4 RCTs of 15 included articles: course waiting list	-
Implementation status	Implemented (adopted and evaluated) in several provinces across Canada	Implemented, adopted and evaluated in 22 countries	
Effectiveness			
Effectiveness outcome measurements (outcomes)	*Provider experience questionnaire* (baseline results); *provider questionnaire* (post-implementation results); *client satisfaction survey* (comfort with technology, services accessed, and subjective ratings of satisfaction and perceived benefit); *community stakeholder and provider focus group* (experiences with mental health system and programme)	2 different scales/questionnaires (knowledge); social distance scale (attitudes); several different items, e.g. number of times when help had been provided (helping behaviours)	-

Project name	Stepped Care 2.0	Mental Health First Aid	
Author, year [reference]	**Cornish, 2019 [80]**	**Hadlaczky, 2014 [78]**	**Kitchener, 2008 [79]**
Effectiveness outcomes **Absolute effects (mean, SD, p-value of overall effect [baseline and FU]**	■ programme helped engage stakeholders in their efforts to improve access and reduce wait times ■ growing use and generally positive experiences ■ stepped care model to organise and deliver programming was positively received ■ high client satisfaction ■ even higher provider satisfaction ■ provider readiness and enthusiasm for programme greater at project's end **Baseline characteristics of providers:** programme was "credible" (mean 7.0, SD 1.4) and "somewhat successful" (mean 5.8, SD 1.6) providers reported being "somewhat knowledgeable" about Stepped Care (mean 4.1, SD 1.1); self-efficacy for programme: provider's confidence to enact programme principles in difficult situations or with difficult clients (moderately certain; mean 6.2, SD 1.6); **Questionnaire for providers/managers (post-implementation):** stakeholders embracing programme, respondents felt positively about programme, client-centric programme while promoting client autonomy/empowerment/ responsibility, evidence-based and effective, helped practices evolve **Client satisfaction survey results:** Bridge the gApp ranked first; 59% used high-intensity services (steps 6-10), 41% lower intensities (steps 1-5); 106 clients used step 7 services (counselling); clients rated quality of tools good (37%) and excellent (30%); needs met by tools (79%); programme helped dealing with problems (62%) **Community stakeholder and provider focus group results:** reduction of service wait time by 68%	■ **change in knowledge:** mean effect size of Glass's $\Delta = 0.6$ (95% CI = 0.4-0.7; **p<0.001**); ■ **attitudes:** $\Delta = 0.3$ (95% CI = 0.2-0.4; **p<0.001**); ■ **helping behaviours:** $\Delta = 0.3$ (95% CI = 0.1-0.4; **p<0.001**)	■ evaluations incl. 2 RCTs (changes in knowledge, attitudes and first aid behaviours) ■ improved recognition of mental disorders, changed beliefs about treatment to be more like those of health professionals, decreased social distance from people with mental disorders, increased confidence in providing help, increase in amount of help provided to others (uncontrolled trial; improvements maintained over 6 months) ■ improved concordance with health professionals about treatments, improved helping behaviour, greater confidence in providing help to others, decreased social distance from people with mental disorders, positive mental health benefits to participants (2 RCTs; 5-6 months post-training) ■ 78% of respondents were able to act in a way that led to a better outcome, positive confidence to respond, increased empathy, better handling of crises (qualitative study)
Implementation			
Implementation outcome measurements (outcomes)	*Provider experience questionnaire* (baseline results); *provider questionnaire* (post-implementation results); *community stakeholder and provider focus group* (experiences with mental health system and programme)	-	-
Implementation process evaluation	**Baseline characteristics of providers:** stage of readiness for programme prior to training (44% of providers in action, 40% in preparation); high level of "affective commitment" to adopting stepped care principles (mean 6.0, SD 1.0); motivation to adopt programme as autonomous (than controlled) (ratio of 1.6, SD 1.5); perceived barriers/benefits (improved access to mental health support, programme as empowering for clients, resistance from certain providers, manage expectations for change with sensitivity)	-	■ developed in Australia in 2001 ■ 2005: every state/territory had instructor ■ 2007: development of Youth manual/course (additional modules on deliberate self-harm and eating disorders) to train adults in how to better assist adolescents ■ 2007: 600 instructors, 20 Youth instructors, 7 trainers of instructors, 55,000 people trained as mental health first aiders ■ initially more in rural areas ■ website for dissemination

Project name	Stepped Care 2.0	Mental Health First Aid	
Author, year [reference]	**Cornish, 2019 [80]**	**Hadlaczky, 2014 [78]**	**Kitchener, 2008 [79]**
Implementation process evaluation *(continuation)*	**Questionnaire for providers/managers (post-implementation):** all providers received training (hours of training for providers: mean 7.5, SD 10.3; for managers: mean 7.7, SD 6.7); *providers:*[30] programme knowledge (p<0.001), programme self-efficacy (p<0.001), stage of change (p<0.001), controlled motivation (p<0.001), comfort with Bridge the gApp (p<0.05); *managers:*[30] programme knowledge (p<0.001), stage of change (p<0.001), comfort with Bridge the gApp (p<0.05); more resources/support/training needed for full implementation **Community stakeholder and provider focus group results:** not enough implementation science (e.g., technology, marketing)		■ decentralised model for dissemination: Training Program trains instructors who then deliver courses under the auspices of local organisations and arrange funding ■ adaptation for Aboriginal and Torres Strait Islander peoples and non-English speaking immigrant groups ■ e-learning version for, e.g. people in remote areas, shift workers ■ development of guidelines using Delphi consensus studies for, e.g. depression and psychosis first aid ■ ongoing support to instructors: annual 2-day instructor conference; provision of expert help if needed by instructors; regular newsletter ■ spread to 7 other countries, initially supported by government funding ■ spread assisted by formal evaluation and publication in peer-reviewed journals → credibility to programme, easier funding ■ independent evaluations in Scotland and Ireland ■ reasons for success: public relates to/accepts concept and can play useful initial role; demand for training due to high prevalence of mental disorders, people want to know how to respond with initial help; unmet need for mental health services, evidence-based content, rigorously evaluated effects
Comments	Promising model for integrating e-mental health interventions, recovery principles, and single session rapid access counselling with traditional (or established) in-person programming on a provincial scale **Implementation procedure:** 1. Project planning and team development 2. Approvals, evaluation design, and training resource preparation 3. Baseline provider assessment and training 4. Launch of e-mental health tools, practice development, and support 5. Post-implementation data collection and preliminary analysis	Recommendable for public health action	-

CI – confidence interval; FU – follow-up; n.r. – not reported; Pts – patients; RCT – randomised controlled trial; SD – standard deviation; UK – United Kingdom; y – year(s).

[30] Only outcomes with significant improvements.

Various diseases

Table A-15: Data extraction table, programmes for various diseases

Project name	Girasole	Making every contact count	
Author, year [reference]	**Oetterli, 2019 [81]**	**Lawrence, 2016 [82]**	**Chisholm, 2020 [83]**
Study characteristics			
Indication	Various diseases		
Country (affiliation corresponding author)	Switzerland	United Kingdom	
Study design/aim of study	Evalution report (pre-post comparison) ■ to obtain independent and scientifically answers to key questions of the programme	Controlled trial ■ to evaluate implementation of training intervention ■ to evaluate impact on professional practice of health and social care practitioners	Prospective evaluation (survey design; within-subject design) ■ to evaluate self-reported training experiences of health care staff and change in their behavioural determinants following an online behaviour change training module ■ to investigate behavioural factors related to health staff's capability, opportunity, and motivation to engage in health conversations with service users
Study population (pts/care providers)	GPs, pts aged 40-75 yrs with one or more risk factor(s) for NCDs and motivated to change behaviour	Health and social care practitioners, community health nurses and oral health workers, playworkers/ supervisors, community development workers, family support workers	Clinical and non-clinical healthcare staff (nurses/midwives, medical & dental health professionals, allied health professionals, psychological therapist, social workers etc.)
Number of included pts/analysed pts	19/17 GPs 181/100 pts	implementation outcomes: 148/148 effectiveness outcomes: 148/143 (short-term), 148/139 (medium-term), 168 observed conversations involving 70 trainees (long-term)	206 256 (only free text feedback)
Dropouts	2 GPs 81 pts	effectiveness outcomes: 5-9	Survey: missings <5%
Age, years	Pts: 40-75y (most of pts 50-65y)	n.r.	Mean 44y (SD 9.4; range 22-6)
Sex	2/3 of GPs female	n.r.	Mostly female (91%)
Last follow-up after baseline assessment	n.r.	1 year post-training	No FU
Intervention			
Prevention/management	Prevention	Prevention	
Aims	■ to reduce risk factors for NCDs and promote physical activity	To train health and social care practitioners with skills to support health-related behaviour change, e.g., smoking, alcohol consumption, diet and physical activity	
Intervention	■ coaching for health-related behavioural changes by GPs ■ supported by physical activity recommendations	**Healthy Conversation Skills training programme:** ■ skills to support health behaviour change in pts with whom practitioners work ■ motivate pts to change ■ client-centred counselling approach ■ exploratory conversations through which practitioner attempts to understand pts' world and context of problem	**Online behaviour change technique Training:** ■ 40-minute online "Making every contact count" behaviour change training module ■ Module sections include: e.g., introducing clinical communication skills including eliciting individuals' ideas, concerns and expectations; understanding complexity of health behaviour; behaviour change techniques which can be used in conversations (such as goal setting, feedback on behaviour, information about consequences, social reward)

Project name	Girasole	Making every contact count	
Author, year [reference]	**Oetterli, 2019 [81]**	**Lawrence, 2016 [82]**	**Chisholm, 2020 [83]**
Intervention *(continuation)*	■ coaching by GP – 4 steps: 1. physician made pts aware of the need for behavioural change; 2. pt and GP selected areas for behavioural change and talked about his/her motivation; 3. pt planned his/her own health project incl. concrete goals/measures; 4. physician and patient reviewed implementation and goal achievement ■ 3 areas of activity: *education* for GPs, *intervention* GPs' practice, and *support* of GPs ■ Real-world framework	■ process of empowerment to take control of issues and increase self-efficacy ■ implementation by practitioners during pts' routine contact ■ behaviour changes are intended by *5 core skills:* 1. identify/create opportunities to hold 'healthy conversations' 2. use open discovery questions 3. reflect on practice 4. listen rather than provide information ■ support goal-setting through SMARTER[31] planning.	
Duration of intervention	n.r.	Healthy Conversation Skills training: 3x 3-hour group sessions over 3-5 weeks	Online behaviour change technique Training: 40-minute training module
Setting	Primary care	Children's center	Clinical and non-clinical healthcare setting
Involved professional groups	GPs	Health and social care practitioners, community health nurses and oral health workers, playworkers/ supervisors, community development workers, family support workers, psychologists, public health practitioners	Clinical and non-clinical healthcare staff (nurses/midwives, medical & dental, allied health professional, specialist practitioner, additional clinical services, practitioner, psychological therapist, social worker, advanced practitioner, healthcare scientist)
Intervention of control group	-	Untrained practitioners	-
Implementation status	Pilot project implemented in some provinces in Switzerland	Implemented in some cities/districts of the UK	
Effectiveness			
Effectiveness outcome measurements (outcomes)	2 written before-and-after surveys with the GPs and the patients, patient-specific data collected by the GPs (change of knowledge and skills of GPs, achievement of goals of pts, changes in health status, health behaviour and health literacy)	**Assessment of training impact on staff practice** ■ Short-term impact: questionnaires; 4 written statements that came from pts ■ Medium-term: post-training telephone interview ■ Long-term: researchers observed conversations between trained practitioners and pts at group activity sessions 1 year post-training	■ 9-item electronic **survey** (theoretically driven factors, i.e., behavioural determinants regarding adhering to programme recommendations to hold health conversations with service users and provided written comments about their training experiences); ■ **free-text feedback** (experiences and views of the session)
Effectiveness outcomes **Absolute effects (mean, SD, p-value of overall effect [baseline and FU]**	→ (still) little evidence of efficacy available *GPs:* (n=16) majority were positive about acquired knowledge/skills *Pts:* (n=90) >2/3 reached personal aim **Health status:** 28% improved general health status 18% felt less restricted in their health 52% improved BMI 74% improved psychological distress 48% increased control over their own lives	■ significantly greater use of client-centred skills to support behaviour change compared to controls *Short-term impact on staff practice:* ■ numbers of open discovery questions increased after training from 16 to 321 ■ giving information or making suggestions decreased from 428 to 130 ■ number of trainees using open discovery questions increased from 13 to 114 ■ 78% of trainees who had used no open discovery questions before training used at least one afterwards	Online training can: ■ engage staff in learning about behaviour change skills ■ increase their behavioural determinants to adopt these skills in practice **Behavioural determinants for having health conversations with service users:** *Within-group comparisons pre-post-training (mean [SD]; p-value; small/medium/large effect size):* ■ *Self-efficacy:* pre: 5.6 (1.2); post: 6.0 (1.0); **p<0.001**; s; ■ *Subjective norm:* pre: 5.5 (1.3); post: 5.9 (1.1); **p<0.001**; s; ■ *Perceived behavioural control:* pre: 4.5 (1.5); post: 5.0 (1.6); **p<0.001**; m;

Project name	Girasole	Making every contact count	
Author, year [reference]	**Oetterli, 2019 [81]**	**Lawrence, 2016 [82]**	**Chisholm, 2020 [83]**
Effectiveness outcomes **Absolute effects (mean, SD, p-value of overall effect [baseline and FU]** *(continuation)*	**Health-related behaviour:** 34% moved more often after intervention 54% reduced sitting time 40% consumed more vegetables/fruits 23% reduced habitual alcohol consumption 11% improved higher-risk alcohol consumption 6 pts became non-smokers **Health literacy:** no effects of coaching	**Medium-term:** ■ median overall competence rating for trainees was 55% (IQR: 35-70) ■ moderate to high levels of skill in finding opportunities to have healthy conversations (median score 3 (IQR: 2-3) and in using open discovery questions (median score 2 (IQR: 0-4) ■ conversations did not include SMARTER goal-setting median score 1 (IQR: 0-2) **Long-term (number [%]; p-value):** ■ *Practitioner created opportunity for healthy conversation* I: 80 (48%); C: 26 (29%); **p=0.02**; ■ *>2 open discovery questions used* I: 99 (59%); C: 18 (20%); **p<0.001**; ■ *More time spent listening than giving information* I: 141 (84%); C: 60 (67%); **p=0.02**; ■ *At least half the time spent asking open discovery questions* I: 79 (47%); C: 10 (11%); **p<0.001**; ■ *Questions asked supporting SMARTER[31] planning* I: 16 (10%); C: 1 (1%); p=0.05;	■ *Behavioural attitudes:* pre: 5.2 (1.2); post: 5.6 (1.1); **p<0.001**; m; ■ *Outcome expectancies:* pre: 5.3 (1.1); post: 5.8 (1.0); **p<0.001**; l; ■ *Action plan:* pre: 4.4 (1.6); post: 5.2 (1.4); **p<0.001**; l; ■ *Action control:* pre: 5.3 (1.1); post: 5.8 (1.0); **p<0.001**; m; ■ *Identity:* pre: 5.9 (1.1); post: 6.0 (1.1); ■ *Behavioural expectation:* pre: 5.9 (3.0); post: 6.6 (2.9); **p<0.001**; m; **Behavioural expectations to engage in health conversations:** ■ average behavioural expectation ratings: Mean 6.3 (SD 3.0), Median 7 (IQR 0-10) ■ 24% expected to have healthy conversations with all service users ■ 76% indicated expectations to engage in health conversations with around half of the service users they see **Content analysis of staff views and experiences of the online module:** Training enhanced staff behaviour change skills, modelled a productive/specific method of adopting a patient-led approach to behaviour change conversations *3 key themes:* 1. Learning multiple behaviour change techniques and specific communication skills from session 2. Impact of session for individuals: e.g., implementation to day-to-day practice, reflection on practice, changed value of conversations with service users 3. Views on session components: session was valuable to staff in terms of being useful, informative and interesting; many staff found module content relevant to their practice, others not (did not relate to day-to-day practice)
Implementation			
Implementation outcome measurements (outcomes)	Document analysis, participatory observation, group and individual interviews (reach of GPs and pts, acceptance)	**Assessment of training implementation's effectiveness** ■ No. of training sessions held over intervention period was recorded; ■ proportion of eligible staff who attended training and distribution of type of staff was calculated; ■ observation of No. of times trainers modelled skills during training (=assessment of fidelity using Flanders Interaction Analysis Technique); ■ how valuable trainees perceived training (rate its value on a scale)	-

[31] Specific, Measurable, Action-oriented, Realistic, Timed, Evaluated, Reviewed

Project name	Girasole	Making every contact count	
Author, year [reference]	**Oetterli, 2019 [81]**	**Lawrence, 2016 [82]**	**Chisholm, 2020 [83]**
Implementation process evaluation	***Reach:*** ■ GPs selective, but pts reached according to criteria ■ 19 *GPs* visited educational training/17 GPs data evaluated (17 implemented intervention/coaching in practice after the training) ■ 181 *pts* (min. 1 step of intervention); 55% (100 pts) finished coaching ■ *Dropouts:* 2 GPs; 45% (81 pts) discontinued coaching prematurely ***Adoption:*** ■ acceptance by GPs and pts **GPs:** *Benefit of training:* ■ all GPs were very satisfied and rated benefit as very high; need of further training (e.g., motivational conversation) *Implementation to practise:* ■ Satisfied; ½ of GPs: intervention could (rather) not be implemented within consultation hours ■ 82% stated inadequate collective bargaining conditions for health promotion and prevention *Support of Service of promotion and health evaluation (SPVS):* ■ useful materials ■ more than 50% worked with these materials ■ useful exchange meetings ■ high workload ■ positive cost-benefit-ratio of evaluation *Intervention approach:* ■ Positive: implementable, structured, flexible, legitimate, satisfying, fruitful; promotion of pts' initiative, improve coaching skills and overall learning ■ Negative: restrictive, risky, incompatible with professional identity, unrealistic **Pts:** *Satisfaction with coaching:* ■ Very positive, felt understood/supported by their GP ■ Improved well-being ■ more responsibility for their health ■ useful meetings with GP ■ 6 dropouts: 50% positive feedback	■ 148 of 210 eligible practitioners completed the training (response rate of 70%) ■ feedback that training was valuable: median 8 (IQR: 7-9) ■ 84% of trainees gave positive (e.g., using the skills in practice) feedback, 45% negative (e.g., training content) feedback	-

Project name	Girasole	Making every contact count	
Author, year [reference]	**Oetterli, 2019 [81]**	**Lawrence, 2016 [82]**	**Chisholm, 2020 [83]**
Implementation process evaluation *(continuation)*	***Implementation:*** ■ need for optimisation regarding organisation and billing *Implementation into practice:* **GPs:** ■ Most in solo effort ■ ¼ of GPs included medical public administrators *Recruiting:* ■ Some GPs selected the pts: high initial motivation of pts → high chance of change ■ Some GPs recruited all pts **SPVS:** *Implementation:* ■ Time-consuming (e.g., communication with GPs), challenging adaptation of materials ***Maintenance:*** ■ basis for implementation created **GPs:** ■ Motivated continuing coaching **Pts:** ■ Maintain behaviour (longer-term) ■ majority would join health projects in future **SPVS:** ■ Continuation of programme		
Comments	Recommendations: ■ Continuing and spreading programme ■ Optimising programme ■ Continuing evaluation ■ Overview of different intervention types and implementation recommendations ■ Data regarding effectiveness, practicability and economic efficiency ■ Improving framework conditions for prevention in primary care Pilot project Girasole was part of the measures of the Swiss NCD-Strategy	■ programme uses existing services to deliver support for behaviour change → potential to improve public health at relatively low cost ■ Healthy Conversation Skills training was designed to be accessible to practitioners from a range of backgrounds ■ front-line practitioners at all levels can be given training in client-centred skills to support behaviour change	-

C – control group; GP – general practitioner; I – intervention group; IQR – interquartile range; SD – standard deviation; SPVS – Service of promotion and health evaluation.

Literature search strategies

Medline via Ovid

1	Disease Management Programm.mp. (13)
2	Disease Management Programme.mp. (230)
3	Disease Management Programmen.mp. (20)
4	Disease Management Programms.mp. (9)
5	DMP.ti,ot. (341)
6	1 or 2 or 3 or 4 or 5 (593)
7	exp Pulmonary Disease, Chronic Obstructive/ (72743)
8	Chronic Obstructive Pulmonary Disease*.mp. (73054)
9	(heart or herz* or coronary or koronar* or COPD* or diabet*).mp. (2810142)
10	7 or 8 or 9 (2847389)
11	6 and 10 (222)
12	exp Germany/ (143900)
13	german*.mp. (299950)
14	german.la. (932639)
15	12 or 13 or 14 (1126120)
16	11 and 15 (102)
17	North Karelia Project.mp. (139)
18	Besser leben mit COPD.mp. (0)
19	Mieux vivre avec une BPCO.mp. (0)
20	Living well with COPD.ti. (12)
21	Lungenliga.mp. (3)
22	Ligue pulmonaire.mp. (2)
23	Lega Polmonare.mp. (0)
24	18 or 19 or 20 or 21 or 22 or 23 (17)
25	Mental Health First Aid.mp. (347)
26	MHFA.ti,ab. (131)
27	25 or 26 (351)
28	exp Canada/ (194595)
29	Canada.mp. (197037)
30	Canadi#n*.mp. (87589)
31	28 or 29 or 30 (281519)
32	exp Australia/ (185728)
33	Australia*.mp. (251021)
34	32 or 33 (269354)
35	31 or 34 (541190)
36	27 and 35 (129)
37	Stepped Care.mp. (1934)
38	31 and 37 (41)
39	"Stepped Care 2.0".mp. (2)
40	38 or 39 (43)
41	GLICEMIA.ti. (5)
42	GLICEMIA.mp. (524)
43	15 and 42 (3)
44	41 or 43 (6)
45	Girasole.mp. (12)
46	Making every contact count.mp. (48)
47	Finnish Diabetes Prevention Study.mp. (113)
48	16 or 17 or 24 or 36 or 40 or 44 or 45 or 46 or 47 (608)
49	limit 48 to (english or german) (581)
50	remove duplicates from 49 (466)

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Health Technology Assessment
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